

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



2.3.1: STUDENT CENTRIC LEARNING METHODS



2.3.1: STUDENT CENTRIC LEARNING METHODS

The learning Process includes

- 1- Experiential learning**
- 2- Participative learning**

SIR.M VISVESVARAYA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

AN ISO 9001:2008 CERTIFIED INSTITUTION

INTERNATIONAL AIRPORT ROAD, BANGALORE-562157



LABORATORY MANUAL

FOR

18CVL37: COMPUTER AIDED BUILDING PLANNING
AND DRAWING

(FOR INTERNAL CIRCULATION ONLY)

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VISION AND MISSION OF SIR MVIT

VISION

- To be a centre of excellence in technical and management education concurrently focusing on discipline and integrated development of personality through quality education, sports, cultural and co-curricular activities.
- To promote transformation of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

MISION

- To impart quality technical education, provide state-of-art facilities, achieve high quality in teaching-learning and research and encourage extra and co curricular activities. (M1)
- To stimulate in students a spirit of enquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives. (M2)
- To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbibing professional ethics and societal commitment. (M3)
- To create an ambience and nurture conducive environment for dedicated and quality staff to upgrade their knowledge and skills and disseminate the same to students on a sustainable long term basis. (M4)
- To facilitate effective interaction with the industries, alumni and research institutions. (M5)

VISION AND MISSION OF DEPARTMENT OF CIVIL ENGINEERING

VISION

- To create competent, disciplined quality Engineers and administrators of global standards in Civil Engineering with capability of accepting new challenges.

MISSION

- To impart quality education in civil engineering.
- To serve society by providing professional civil engineering leadership to find solution to community, regional and global problems and accept new challenges in rapidly changing technology.
- To create competent professionals who are trained in the design and development of civil engineering systems and contribute towards research & development activities.

DEPARTMENT OF CIVIL ENGINEERING

Program Educational Objectives (PEOs):

1. Graduates will become leaders in the industries associated with civil engineering and become professional entrepreneurs. They will be experts working in public sector, private sector, and international organizations.
2. Graduates will engage in continual learning by pursuing advanced degrees or additional educational opportunities through coursework, professional conferences and training, or participation in professional societies.
3. Graduates will adapt to different roles and responsibilities in multidisciplinary environment by respecting professionalism and ethical practices. They will contribute to the well-being of the society and environment through responsible practice of engineering profession.

Program Outcomes (POs):

PO's	Program Outcomes (POs)
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems: ➤ that cannot be solved by straightforward application of knowledge, theories and techniques applicable to the engineering discipline as against problems given at the end of chapters in a typical text book that can be solved using simple engineering theories and techniques; ➤ that may not have a unique solution. For example, a design problem can be solved in many ways and lead to multiple possible solutions; ➤ that require consideration of appropriate constraints / requirements not explicitly given in the problem statement such as cost, power requirement, durability, product life, etc.; ➤ which need to be defined (modelled) within appropriate mathematical framework; and ➤ that often require use of modern computational concepts and tools, for example, in the design of an antenna or a DSP filter.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex

	engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Identify the broad context of civil engineering problems, including describing the problem Conditions, identifying possible contributing factors and generating alternative solution strategies.
PSO2	Undertake laboratory, field and other data collection efforts using commonly used measurement techniques to support the study and solution of Civil Engineering problems.
PSO3	Employ mathematics, science and computing techniques in a systematic, comprehensive and rigorous manner to support the study and solution of civil engineering problems.
PSO4	Exhibit good teamwork skills and serve as effective member of multi-disciplinary project teams.

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LABORATORY MANUAL

FOR

18CVL66: SOFTWARE APPLICATION
LABORATORY

(FOR INTERNAL CIRCULATION ONLY)

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B. E. CIVIL ENGINEERING Choice Based Credit System (CBCS) and Outcome Based Education (OBE) SEMESTER - VI			
SOFTWARE APPLICATION LABORATORY			
Course Code	18CVL66	CIE Marks	40
Teaching Hours/Week(L:T:P)	(0:2:2)	SEE Marks	60
Credits	02	Exam Hours	03
Course Learning Objectives: This course will enable students to 1. Use industry standard software in a professional set up. 2. Understand the elements of finite element modeling, specification of loads and boundary condition, performing analysis and interpretation of results for final design. 3. Develop customized automation tools.			
Module -1			
Use of civil engineering software's: Use of software's for: 1. Analysis of plane trusses, continuous beams, portal frames. 2. 3D analysis of multistoried frame structures.			
Module -2			
1. Project Management- Exercise on Project planning and scheduling of a building project using any project management software: a. Understanding basic features of Project management software b. Constructing Project: create WBS, Activities, and tasks and Computation Time using Excel spread sheet and transferring the same to Project management software. c. Identification of Predecessor and Successor activities with constrain d. Constructing Network diagram (AON Diagram) and analyzing for Critical path, Critical activities and Otherton Critical paths, Project duration, Floats. e. Study on various View options available f. Basic understanding about Resource Creation and allocation g. Understanding about Splitting the activity, Linking multiple activity, assigning Constrains, Merging Multiple projects, Creating Baseline Project 1. GIS applications using open source software: a. To create shape files for point, line and polygon features with a map as reference. b. To create decision maps for specific purpose.			
Module -3			
Use of EXCEL spread sheets: Design of singly reinforced and doubly reinforced rectangular beams, design of one way and two way slabs, computation of earthwork, Design of horizontal curve by offset method, Design of super elevation.			
Course Outcomes: After studying this course, students will be able to: use software skills in a professional set up to automate the work and thereby reduce cycle time for completion of the work			
Question paper pattern: • The question paper will have 6 questions under 3 modules. • There will be two full questions (with a maximum of three subdivisions, if necessary) from each module. • Each full question shall cover the topics under a module. • Module-1: 40 Marks, Module-2: 30 Marks, Module-3: 30 Marks. • The students shall answer three full questions, selecting one full question from each module.			
Reference Books: Training manuals and User manuals and Relevant course reference books			

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b.	Analysis of Portal Frame
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b.	SFD and BMD for cantilever beam subjected to UVL
c.	SFD and BMD for SS beam subjected to UDL
d.	SFD and BMD for SS beam subjected to UVL
e.	Design of singly reinforced beam
f.	Design of doubly reinforced beam
g.	Computation of earthwork
h.	Design of horizontal curve by offset method
i.	Design of super elevation
j.	Design of one way slab
h.	Design of Two way slab
USE OF PROJECT MANAGEMENT SOFTWARE – MS PROJECT	
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b.	Float and critical path
c.	Critical path
d.	A-O-A and A-O-N network
GIS APPLICATIONS USING OPEN SOURCE SOFTWARE - QGIS	
a.	Creating shape files for point, line and polygon features
b.	Creating decision map

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Department of Civil Engineering

SIR M VISVESVAYARA INSTITUTE OF TECHNOLOGY

BANGALORE – 562157



DEPARTMENT OF CIVIL ENGINEERING

BACHELOR OF ENGINEERING

SEVENTH SEMESTER

COMPUTER AIDED DETAILING OF STRUCTURES

18CVL76

LABORATORY MANUAL

(FOR INTERNAL CIRCULATION ONLY)

NAME:

USN:

BATCH:

Computer Aided Detailing Lab (18CVL76)

VISION & MISSION OF THE DEPARTMENT

VISION

- To create competent, disciplined quality Engineers and administrators of global standards in Civil Engineering with capability of accepting new challenges.

MISSION

1. To impart quality education in civil engineering to raise the satisfaction level of all stakeholders.
2. To serve society and the nation by providing professional civil engineering leadership to find solutions to community, regional and global problems and accept new challenges in rapidly changing technology.
3. To create competent professionals who are trained in the design, and development of civil engineering systems and contribute towards research & development activities.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

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Department of Civil Engineering

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PROGRAM SPECIFIC OUTCOMES (PSOs)

1. Identify the broad context of civil engineering problems, including describing the problem Conditions, Identifying possible contributing factors and generating alternative solution strategies
2. Undertake laboratory, field and other data collection efforts using commonly used Measurement techniques to support the study and solution of Civil Engineering problems
3. Employ mathematics, science and computing techniques in a systematic, comprehensive and rigorous manner to support the study and solution of civil engineering problems
4. Exhibit good teamwork skills and serve as effective member of multi disciplinary project teams.

Course Learning Objectives:

This course will enable students to

1. Be aware of the Scale Factors, Sections of drawings,
2. Draft the detailing of RC and Steel Structural members.

Course outcomes:

1. After studying this course, students will be able to Prepare detailed working drawings

B. E. CIVIL ENGINEERING Choice Based Credit System (CBCS) and Outcome Based Education (OBE) SEMESTER - VII			
COMPUTER AIDED DETAILING OF STRUCTURES			
Course Code	18CVL76	CIE Marks	40
Teaching Hours/Week(L:T:P)	(0:2:2)	SEE Marks	60
Credits	02	Exam Hours	03
Course Learning Objectives: This course will enable students to 1. Be aware of the Scale Factors, Sections of drawings, 2. Draft the detailing of RC and Steel Structural member.			
Module -1 Detailing of RCC Structures			
- Beams – Simply supported, Cantilever and Continuous. - Slab – One way, Two way and One-way continuous. - Staircase – Doglegged - Cantilever Retaining wall - Counter Fort Retaining wall - Circular Water Tank, Rectangular Water Tank.			
Module -2 Detailing of Steel Structures			
1. Connections – Beam to beam, Beam to Column by Bolted and Welded Connections. 2. Built-up Columns with lacings and battens 3. Column bases and Gusseted bases with bolted and welded connections. 4. Roof Truss – Welded and Bolted 5. Welded Plate girder 6. Gantry Girder			
Course outcomes: After studying this course, students will be able to: Prepare detailed working drawings			
Question paper pattern: 1. Two questions shall be asked from each Module. 2. One full question should be answered from each Module. 3. Each question carries 50 marks.			
Textbooks: 1. N Krishna Raju, "Structural Design and Drawing of Reinforced Concrete and Steel", University Press 2. Krishna Murthy, "Structural Design and Drawing – Concrete Structures", CBS Publishers, New Delhi			
Reference Books: 1. SP 34: Handbook on Concrete Reinforcement and Detailing, Bureau of Indian Standards. 2. IS 13920, Ductile Design And Detailing Of Reinforced Concrete Structures Subjected To Seismic Forces - Code Of Practice, Bureau of Indian Standard.			

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LIST OF EXPERIMENTS

Sl. No.	Title of the experiment	Date	Marks awarded
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SRI KRISHNADEVARAYA EDUCATIONAL TRUST
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CIVIL ENGINEERING DEPARTMENT

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LABORATORY MANUAL

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18CVL66: SOFTWARE APPLICATION

LABORATORY

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CIVIL ENGINEERING DEPARTMENT

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CIVIL ENGINEERING DEPARTMENT

LIST OF EXPERIMENTS

USE OF ANALYSIS SOFTWARE - ETags	
a.	Analysis of Continuous beam
b.	Analysis of Portal Frame
c.	Analysis of Truss
d.	Analysis of 3 D, Multi-storey Building
USE OF MS EXCEL IN CIVIL ENGINEERING PROBLEMS	
a.	SFD and BMD for cantilever beam subjected to UDL
b.	SFD and BMD for cantilever beam subjected to UVL
c.	SFD and BMD for SS beam subjected to UDL
d.	SFD and BMD for SS beam subjected to UVL
e.	Design of singly reinforced beam
f.	Design of doubly reinforced beam
g.	Computation of earthwork
h.	Design of horizontal curve by offset method
i.	Design of super elevation
j.	Design of one way slab
h.	Design of Two way slab
USE OF PROJECT MANAGEMENT SOFTWARE MS PROJECT	
a.	Network diagram
b.	Float and critical path
c.	Critical path
d.	A-O-A and A-O-N network
GIS APPLICATIONS USING OPEN SOURCE SOFTWARE - QGIS	

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CIVIL ENGINEERING DEPARTMENT

a.	Creating shape files for point, line and polygon features
b.	Creating decision map

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Head
Dept. of Civil Engg.
M VIT, Bangalore-562 157

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CIVIL ENGINEERING DEPARTMENT

B. E. CIVIL ENGINEERING			
Choice Based Credit System (CBCS) and Outcome Based Education (OBE)			
SEMESTER - VI			
SOFTWARE APPLICATION LABORATORY			
Course Code	18CVL66	CIE Marks	40
Teaching Hours/Week(L:T:P)	(0:2:2)	SEE Marks	60
Credits	02	Exam Hours	03
Course Learning Objectives: This course will enable students to 1. Use industry standard software in a professional set up. 2. Understand the elements of finite element modeling, specification of loads and boundary condition, performing analysis and interpretation of results for final design. 3. Develop customized automation tools.			
Module -1			
Use of civil engineering software's: Use of software's for: 1. Analysis of plane trusses, continuous beams, portal frames. 2. 3D analysis of multistoried frame structures.			
Module -2			
1. Project Management- Exercise on Project planning and scheduling of a building project using any project management software: a. Understanding basic features of Project management software b. Constructing Project: create WBS, Activities, and tasks and Computation Time using Excel spread sheet and transferring the same to Project management software. c. Identification of Predecessor and Successor activities with constrain d. Constructing Network diagram (AON Diagram) and analyzing for Critical path, Critical activities and Other non Critical paths, Project duration, Floats. e. Study on various View options available f. Basic understanding about Resource Creation and allocation g. Understanding about Splitting the activity, Linking multiple activity, assigning Constrains, Merging Multiple projects, Creating Baseline Project 1. GIS applications using open source software: a. To create shape files for point, line and polygon features with a map as reference. b. To create decision maps for specific purpose.			
Module -3			
Use of EXCEL spread sheets: Design of singly reinforced and doubly reinforced rectangular beams, design of one way and two way slabs, computation of earthwork, Design of horizontal curve by offset method, Design of super elevation.			
Course Outcomes: After studying this course, students will be able to: use software skills in a professional set up to automate the work and thereby reduce cycle time for completion of the work			
Question paper pattern: - The question paper will have 6 questions under 3 modules. - There will be two full questions (with a maximum of three subdivisions, if necessary) from each module. - Each full question shall cover the topics under a module. - Module-1: 40 Marks, Module-2: 30 Marks, Module-3: 30 Marks. - The students shall answer three full questions, selecting one full question from each module.			
Reference Books: Training manuals and User manuals and Relevant course reference books			

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CIVIL ENGINEERING DEPARTMENT

VISION AND MISSION OF SIR MVIT

VISION

- To be a centre of excellence in technical and management education concurrently focusing on discipline and integrated development of personality through quality education, sports, cultural and co-curricular activities.
- To promote transformation of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

MISSION

- To impart quality technical education, provide state-of-art facilities, achieve high quality in teaching-learning and research and encourage extra and co curricular activities. (M1)
- To stimulate in students a spirit of enquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives. (M2)
- To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbibing professional ethics and societal commitment. (M3)
- To create an ambience and nurture conducive environment for dedicated and quality staff to upgrade their knowledge and skills and disseminate the same to students on a sustainable long term basis. (M4)
- To facilitate effective interaction with the industries, alumni and research institutions. (M5)

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CIVIL ENGINEERING DEPARTMENT

VISION AND MISSION OF DEPARTMENT OF CIVIL ENGINEERING

VISION

- To create competent, disciplined quality Engineers and administrators of global standards in Civil Engineering with capability of accepting new challenges.

MISSION

- To impart quality education in civil engineering.
- To serve society by providing professional civil engineering leadership to find solution to community, regional and global problems and accept new challenges in rapidly changing technology.
- To create competent professionals who are trained in the design and development of civil engineering systems and contribute towards research & development activities.

DEPARTMENT OF CIVIL ENGINEERING

Program Educational Objectives (PEOs):

1. Graduates will become leaders in the industries associated with civil engineering and become professional entrepreneurs. They will be experts working in public sector, private sector, and international organizations.
2. Graduates will engage in continual learning by pursuing advanced degrees or additional educational opportunities through coursework, professional conferences and training, or participation in professional societies.
3. Graduates will adapt to different roles and responsibilities in multidisciplinary environment by respecting professionalism and ethical practices. They will contribute to the well-being of the society and environment through responsible practice of engineering profession.

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CIVIL ENGINEERING DEPARTMENT

Program Outcomes (POs):

PO's	Program Outcomes (POs)
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems: ➤ that cannot be solved by straightforward application of knowledge, theories and techniques applicable to the engineering discipline as against problems given at the end of chapters in a typical text book that can be solved using simple engineering theories and techniques; ➤ that may not have a unique solution. For example, a design problem can be solved in many ways and lead to multiple possible solutions; ➤ that require consideration of appropriate constraints / requirements not explicitly given in the problem statement such as cost, power requirement, durability, product life, etc.; ➤ which need to be defined (modelled) within appropriate mathematical framework; and ➤ that often require use of modern computational concepts and tools, for example, in the design of an antenna or a DSP filter.

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PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

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CIVIL ENGINEERING DEPARTMENT

Program Specific Outcomes (PSOs)

PSOs	Program Specific Outcomes (PSOs)
PSO1	Identify the broad context of civil engineering problems, including describing the problem Conditions, identifying possible contributing factors and generating alternative solution strategies.
PSO2	Undertake laboratory, field and other data collection efforts using commonly used measurement techniques to support the study and solution of Civil Engineering problems.
PSO3	Employ mathematics, science and computing techniques in a systematic, comprehensive and rigorous manner to support the study and solution of civil engineering problems.
PSO4	Exhibit good teamwork skills and serve as effective member of multi-disciplinary project teams.

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CIVIL ENGINEERING DEPARTMENT

SOFTWARE APPLICATION
LABORATORY MANUAL

[18CVL66]

ANALYSIS OF STRUCTURES

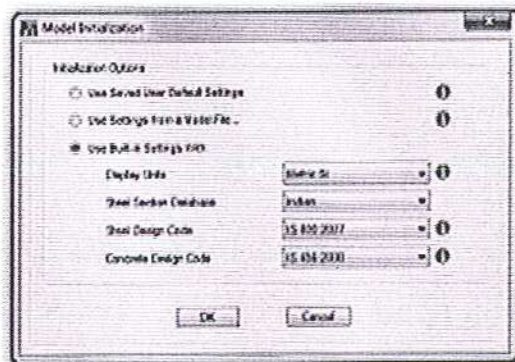
ETABS

INTRODUCTION

ETABS is a special-purpose computer program developed specifically for building structures. It provides the Structural Engineer with all the tools necessary to create, modify, analyze, design, and optimize building models. These features are fully integrated in a single, Windows-based, graphical user interface that is unmatched in terms of ease-of-use, productivity, and capability.

STEPS INVOLVED IN ANALYSIS OF CONTINUOUS BEAMS

1. File – New Model
2. Model Initialization



3. New model quick templates
 - Story dimension – no. of story -1
 - Custom grid spacing
 - Edit grid data

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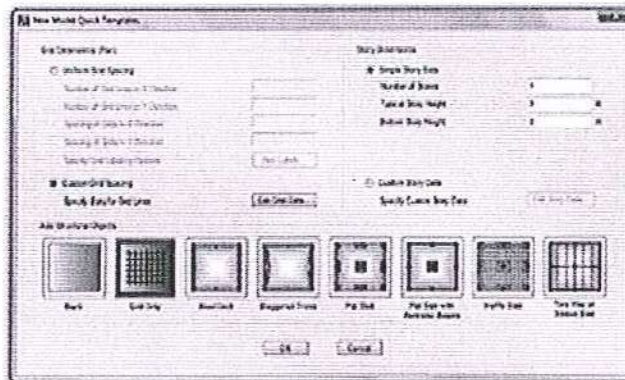
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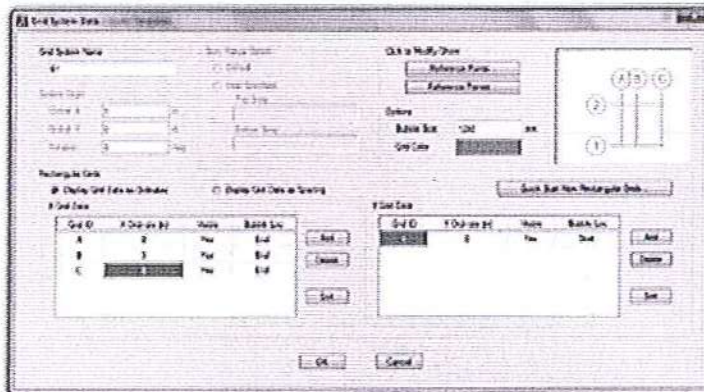
CIVIL ENGINEERING DEPARTMENT

**SOFTWARE APPLICATION
 LABORATORY MANUAL [18CVL66]**



4. Display grid as ordinates

- X-grid
- Delete - D
- X ordinate, A-0, B-3, C-8
- Y-grid
- Delete 2,3,4



5. Grid only - OK
6. Draw beam
7. 3-D view
8. Elevation - set elevation view - chose 1 - OK
9. Quick draw beam
10. Select node A - Assign - Joint - Restraint - Select support - OK

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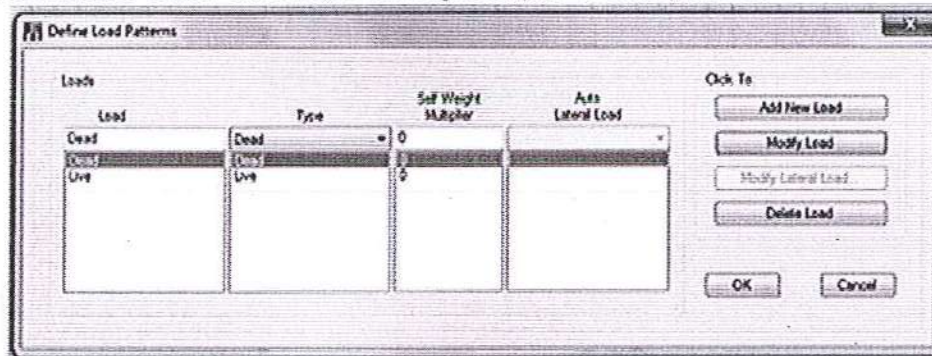


**SOFTWARE APPLICATION
LABORATORY MANUAL**

[18CVL66]



11. Select node B – Define – Load Patterns – Self weight multiplier – 0 – modify load – OK



12. Select beam AB and BC – Assign – Frame loads – Distributed – Load – 8kN/m – Apply – OK

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CIVIL ENGINEERING DEPARTMENT

**SOFTWARE APPLICATION
LABORATORY MANUAL**

[18CVL65]

**Exercise No. 1
Analysis of Continuous beam**

Aim: To analyze the beam loaded as shown in Fig. 1.1 and indicate

- i. Support reactions
- ii. SFD, indicating maximum values
- iii. BMD, indicating maximum values

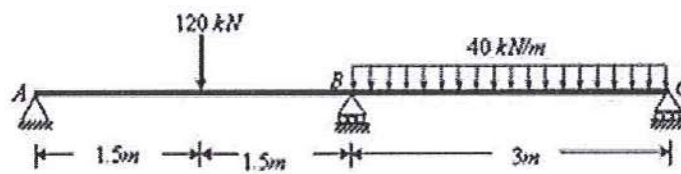
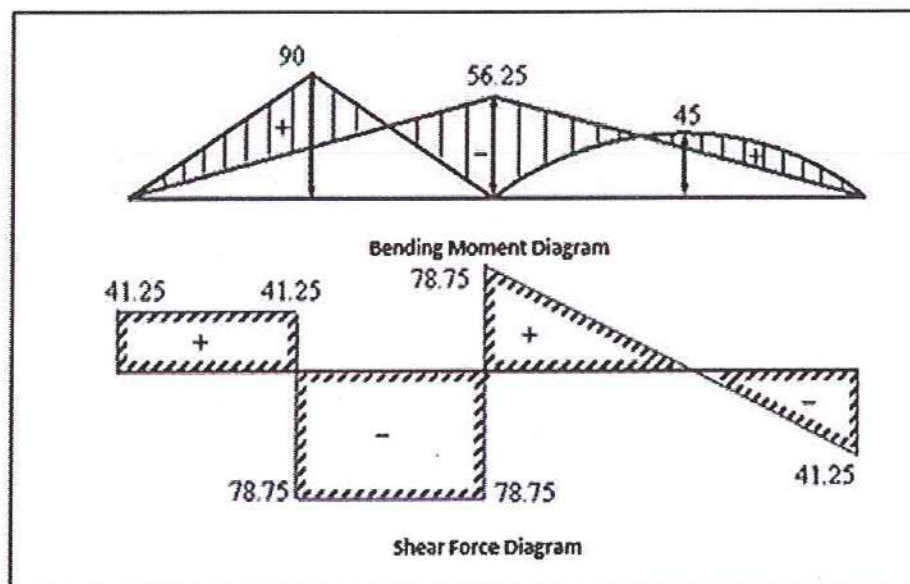


Fig. 1.1



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CIVIL ENGINEERING DEPARTMENT

**SOFTWARE APPLICATION
LABORATORY MANUAL**

[18CVL66]

MS EXCEL

INTRODUCTION

Microsoft Excel is a general-purpose electronic spreadsheet used to organize, calculate, and analyze data. The task we can complete with Excel ranges from preparing a simple family budget, preparing a purchase order, create an elaborate 3-D chart, or managing a complex accounting ledger for a medium size business.

Microsoft Excel is a full-featured spreadsheet program that allows us to organize data, complete calculations, make decisions, graph data, and develop professional reports.

The three major parts of Excel are:

Worksheets – Worksheets allow us to enter, calculate, manipulate and analyze data such as numbers and text.

Charts – Charts pictorially represent data. Excel can draw two-dimensional and three dimensional column charts, pie charts and other types of charts.

Databases – Databases manage data. For example, once we enter data onto a worksheet, Excel can sort the data, search for specific data, and select data that meets required criteria.

Getting started

To initially get Excel started, click on the "Start" button, select "Programs" from the Start

Menu then click on Microsoft Excel.

We can create a shortcut that will cause Excel to start automatically when we turn on

our computer, or we can put a shortcut on the desktop.

Application in Civil engineering

The level of mathematical and statistical skills required for civil engineering professionals varies with type of work and the sub discipline. MS excel can be used to solve various numerical problems in civil engineering which otherwise are time consuming. The type of problems can range from simple calculation of super elevation or calculation of shear force and bending moment to complicated multistoried building design.

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CIVIL ENGINEERING DEPARTMENT

SAMPLE RECORD

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ACCREDITED BY NBA

Laboratory Certificate



This is to certify that ~~Mr~~ / Miss... JHANSY P.N. of... V.Ith semester bearing U S N No.... 1.M.V.21.CV.H10 of the department of... CIVIL ENGINEERING has satisfactorily completed the course of experiments, prescribed by Visveshwaraiah Technological University for the BE course in the... SOFTWARE APPLICATION Laboratory of this college in the year 20..23.. - 20..24..

Subject Code		
Particulars	Maximum Marks	Marks Obtd.
Record Expt.	20	20
Test	20	20
Total EA in Figs.	40	40
In Words : <u>Forty</u>		

Signature of the Staff in charge

Head
 Dept. of Civil Engg.
 Signature of the Head of Dept. of Civil Engg.
 with seal

Head
 Dept. of Civil Engg.
 MVIT, Bangalore-562 157

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CIVIL ENGINEERING DEPARTMENT

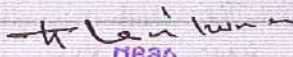
C O N T E N T S

Serial No.	Date	Title of the Experiment	Page No.	Marks
		MS EXCEL	5-6	10
17/04/23	17/04/23	SFD AND BMD FOR CANTI-LEVER BEAM SUBJECTED TO UDL.	7-8	10
02	17/04/23	SFD AND BMD FOR CANTILEVER BEAM SUBJECTED TO UDL.	9-10	10
03	17/04/23	SFD AND BMD FOR SSB SUBJECTED TO UDL	11-12	10
04	17/04/23	SFD AND BMD FOR SSB SUBJECTED TO UDL.	13-14	10
05	17/04/23	DESIGN OF HORIZONTAL CURVE BY OFFSET METHOD	15-15	10
06	24/04/23	DESIGN OF SUPER ELEVATION	16-17	10
07	24/04/23	DESIGN OF SINGLY REINFORCED BEAM	18-19	10
08	24/04/23	DESIGN OF DOUBLY REINFORCED BEAM	20-21	10
09	10/05/23	DESIGN OF ONE WAY SLAB	22-24	10
10	22/05/23	DESIGN OF TWO WAY SLAB	25-27	10
11	29/05/23	COMPUTATION OF EARTHWORK	28-29	10
		ETABS	30-31	
01	05/06/23	ANALYSIS OF CONTINUOUS BEAM	32	10
02	05/06/23	ANALYSIS OF CONTINUOUS BEAM	33	10

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Serial No.	Date	Title of the Experiment	Page No.	Marks
03	12/06/23	ANALYSIS OF PORTAL FRAME	34	12/6/23
04	12/06/23	ANALYSIS OF PORTAL FRAME	35	12/6/23
05	12/06/23	ANALYSIS OF TRUSS	36	12/6/23
	12/06/23	CREATING SHAPFILE FOR POINT, LINE AND POLYGON FEATURES	37-41	12/6/23


 K. Srinivas
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CIVIL ENGINEERING DEPARTMENT

Experiment No.

Name of the Experiment

VISION AND MISSION OF SIRMVIT

Date 16/04/23

Page No. 01

VISION AND MISSION OF SIRMVIT

VISION:-

- * To be a centre of excellence in technical and management education concurrently focusing on discipline and integrated development of personality through quality education, sports, cultural and Co-Curricular activities.
- * To promote transformation and management education of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

MISSION:-

- * To impart quality technical and management education, provide state of art facilities, achieve high quality in teaching learning and research and encourage extra and co-curricular activities.
- * To stimulate in students a spirit of enquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives.
- * To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbuing professional ethics and societal commitment.
- * To create an ambience and nurture and

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CIVIL ENGINEERING DEPARTMENT

Experiment No.

Name of the Experiment

VISION AND MISSION OF SIR MVIT

Date 16/04/23

Page No. 02

Conducive environment for dedicated and quality staff to upgrade their knowledge and skills and disseminate the same to students on a sustainable long term basis.

- * To facilitate effective interaction with the industries, alumni and research institutions.

VISION AND MISSION OF DEPARTMENT OF CIVIL ENGINEERING

VISION:-

- * To Create competent, disciplined quality engineers and administrators of global standards in Civil engineering with capability of accepting new challenges.

MISSION:-

- * To impart quality education in Civil engineering.
- * To Serve Society by providing professional Civil engineering leadership to find solution to Community, regional and global problems and accept new challenges in rapidly changing technology.
- * To Create competent professionals who are trained in design and development of Civil engineering systems and contribute towards

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CIVIL ENGINEERING DEPARTMENT

Experiment No.
Name of the Experiment

VISION AND MISSION OF SIR MVIT

Date 16/04/23
Page No 03

towards research and development activities.

DEPARTMENT OF CIVIL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- * Graduate will become leader in the under-
-studies associated with Civil engineering and
become professional entrepreneurs. They will
be experts working in public sector, private
sector, and international organizations.
- * Graduate will engage in continual learning
by pursuing advanced degrees or additional
educational opportunities through coursework,
professional conferences and training, or
participation in professional societies.
- * Graduate will adapt to different roles and
responsibilities in multidisciplinary environ-
-ment by respecting professionalism and ethical
practices. They will contribute to the well being
of the society and environment through respo-
-nsible practice of engineering profession.

PROGRAM OUTCOMES (POs):

- * Ability to apply knowledge of mathematics,
science and engineering.
- * Ability to design and conduct experiments, as
well as analyze and interpret data for design

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VISION AND MISSION OF SIRMVIT

Date 16/04/23

Page No. 04

- * Civil engineering applications.
- * Ability to select ^{or} identify a civil engineering system, model, analyze and design it sufficiently.
- * Ability to identify appropriate codes and state of the practice analytical and design tools for the design of civil engineering.
- * The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and societal context.
- * Ability to design and construct sustainable systems by considering various environmental issues.
- * Ability to lead and follow in a interdisciplinary team.
- * Ability to communicate effectively through written and verbal forms.
- * Ability to demonstrate knowledge of the engineering and management principles to manage projects.
- * Ability to expand acquired knowledge through self learning and appreciate the importance of self improvement for maintaining and expanding one's capabilities.

chandra's

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CIVIL ENGINEERING DEPARTMENT

Experiment No.

Name of the Experiment **MS EXCEL**

Date **17/04/19**

Page No. **06**

Select data that meets required criteria.

GETTING STARTED:-

- * To initially get excel started, click on the "Start" button, select "Programs" from the start.
- * Menu then click on microsoft excel.
- * We can create a shortcut that will cause excel to start automatically when we turn on.
- * Our computer, or we can put a short cut on desktop.

APPLICATION IN CIVIL ENGINEERING:-

The level of mathematical and statistical skills required for civil engineering profession - also varies with type of work and the sub discipline. MS excel can be used to solve various numerical problems in civil engineering which otherwise are time consuming. The type of problems can range from simple calculations of Super elevation or calculation of SF and BM to complicated multi storied building design.

chinda's

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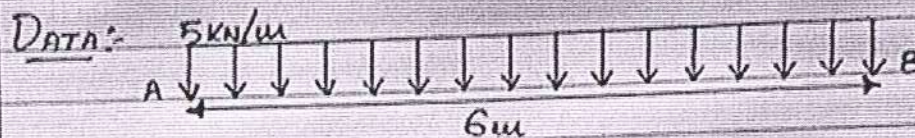
Experiment No 01
Name of the Experiment

SFD AND BMD FOR CANTILEVER BEAM
SUBJECTED TO UDL.

Date 17/04/23
Page No. 01

SFD AND BMD FOR CANTILEVER BEAM
SUBJECTED TO UDL.

AIM:- To plot SFD and BMD for the Cantilever beam loaded as shown below, using MS Excel.



SOFTWARE USED:- MS Excel.

COMMANDS USED:- Copy, Paste, merge cells, font, mathematical formulas, symbols, charts etc...

PROCEDURE:-

- * Open a new file in MS excel.
- * Enter the input Values, such as beam length, loads etc...
- * Calculate reactions, Using formulas and enter them in the cells.
- * Create Columns for span, SF and BM
- * Derive the equations for SF and BM for the beam shown in figure and enter them in the corresponding cells.

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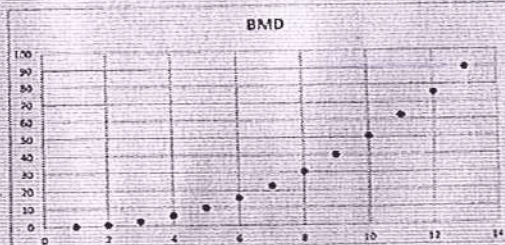
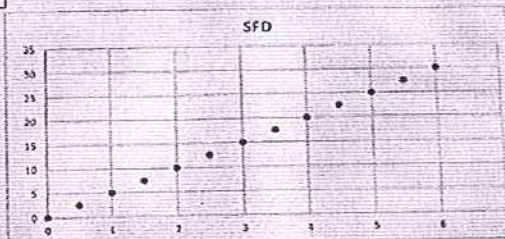
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SFD and BMD for cantilever beam subjected to UDL

SL NO	Length (m)	SF (kN)	BM (kNm)
1	0	0	0
2	0.5	2.5	0.625
3	1	5	2.5
4	1.5	7.5	5.625
5	2	10	10
6	2.5	12.5	15.625
7	3	15	22.5
8	3.5	17.5	30.625
9	4	20	40
10	4.5	22.5	50.625
11	5	25	62.5
12	5.5	27.5	75.625
13	6	30	90



Experiment No: 01 SFD AND BMD FOR CANTILEVER BEAM Date: 17/04/18
 Name of the Experiment: SUBJECTED TO UDL Page No: 08

$$SF = W \times x$$

$$BM = \frac{W \times x^2}{2}$$

* Lock the values to be fixed using the symbol \$, and then drag the cell with the required span of the beam, to get SF and BM values at equal intervals.

* Go to 'insert' -> 'chart' -> 'XY scatter' -> 'scatter with smooth lines' and select the data for the chart to get the required SFD & BMD.

RESULTS:- The SFD and BMD for the given beam have been plotted using the software.

20/04/18

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List of project batches for the extensive survey project

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY DEPARTMENT OF CIVIL ENGINEERING BATCH LIST FOR EXTENSIVE SURVEY PROJECT VI SEMESTER (CIVIL) 2022-23			
Batch 1			
SL. NO.	USN	STUDENT NAME	SIGNATURE
1	IMV21CV426	TARUN	
2	IMV20CV405	CHAITHRA VN	
3	IMV21CV427	VARUN KUMAR I	
4	IMV20CV008	FATIMA RACHA	
5	IMV20CV019	P. KIRAN	
6	IMV20CV028	PRAJWAL T	
7	IMV21CV400	ABDUL KALAM S	
8	IMV21CV501	ADARSHIA M V	
9	IMV21CV409	HARSHITH C U	
10	IMV21CV416	NANDINI J G	
11	IMV21CV420	PRASHANT	
12	IMV21CV432	RAKESH GOWDA C S	
Batch 2			
1	IMV20CV018	NANDITHA N	
2	IMV21CV421	PRIVANKA U	
3	IMV20CV016	MEGHANA V.R	
4	IMV20CV069	HEMANTH DEVANGI	
5	IMV20CV020	N. PAVITRA	
6	IMV21CV414	MANJUNATHA G U	
7	IMV21CV402	AJAY G NAIK	
8	IMV21CV400	AMIZAD FASIA C	
9	IMV21CV401	APOORVA S	
10	IMV21CV412	KIRAN YADAV	
11	IMV21CV428	VISHVARAJ	
Batch 3			
1	IMV21CV423	RIEATH MOHAMMED SHAIKH	
2	IMV20CV014	MANJUNATHI M	
3	IMV20CV013	JAGRUTH K B	
4	IMV20CV022	PRASHANTH VV	
5	IMV20CV026	SUREEAKSHA S NAIK	
6	IMV20CV030	YATISH KUMAR	
7	IMV20CV024	S PRUTHVI	
8	IMV21CV415	MANOHAR M	
9	IMV21CV405	DARSHAN A N	
10	IMV21CV406	GAGAN V K	
11	IMV21CV407	GANESH P N	
12	IMV21CV410	JIHANSY P N	
Batch 4			
1	IMV20CV013	JYOTHI	
2	IMV20CV012	JAYASHREE N	
3	IMV21CV424	SHAILESH V	
4	IMV21CV425	SYED SHAHID D	
5	IMV20CV021	SUMET CHALAN	

Head
 Dept. of Civil Engg.
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6	IMV20CV008	VIDAY T H R G	A
7	IMV20CV011	KARTHIK T	Prasanna
8	IMV20CV008	GOWDHAN H V	Prasanna
9	IMV20CV013	MAHALAKSHMI C	Prasanna
10	IMV20CV018	PAVAN S S	Prasanna
11	IMV20CV017	OMKAR GURUSHARANAPPA	Prasanna
12	IMV20CV019	PRATWAL M C	Prasanna
Batch 5			
1	IMV20CV002	ADARSH	Prasanna
2	IMV20CV001	ABHISHEK	Prasanna
3	IMV20CV003	BIHARGAV P	Prasanna
4	IMV20CV007	DHEERAJ C	Prasanna
5	IMV20CV023	SATHYIK A	Prasanna
6	IMV20CV015	MARUTHI RAJESH	Prasanna
7	IMV20CV017	MOHAMMED AAZIM	Prasanna
8	IMV20CV004	DEIVAN H GOWDA	Prasanna
9	IMV20CV005	DARSHAN C N	Prasanna
10	IMV20CV010	HEMANTH H	Prasanna
11	IMV20CV023	R RAM ROHITH	Prasanna

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18CVEP68 EXTENSIVE SURVEY CAMP

Has been successfully carried out at Sugatta and Gantiganahalli village, by RIFATH MOHAMMED SHAIKH being bearing U.S.N.1MV21CV423 student of 6th semester, B.E. Civil under our supervision and guidance and has submitted the report as per the requirements of Visvesvaraya Technological University, during the academic year 2022-2023.

Dr H. RAVI KUMAR

Associate Prof. and Head

Department of Civil Engineering

Smt. RAMYA

Asst. Prof & Camp officer

Name of the Examiners:

1).....K.M.R. EBBASU.....

2).....SACHIN K.G.....

Dr SIVANNA.S

Associate. Prof & Camp officer

Signature of the Examiners:

1).....*[Signature]*.....

2).....*[Signature]*.....

T. K. A. S.
Head
Dept. of Civil Engg.
MVIT, Bangalore-562 157

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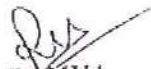


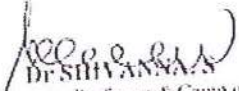
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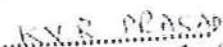
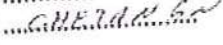
Has been successfully carried out at Suggatta and Gantiganahalli Village, by GOWTHAM B V bearing U.S.N. 1MV21CV408 student of 6th semester, B.E. Civil under our supervision and guidance and has submitted the report as per the requirements of Visvesvaraya Technological University, during the academic year 2022-2023.


Dr. H. RAVI KUMAR
Associate Prof. and Head
Department of civil engineering

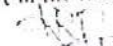
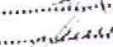

Smt. R. MYA
Asst. Professor & Camp officer

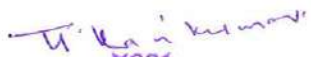

Dr. SHIVANNA S
Associate Professor & Camp officer

Name of the Examiners: -

- 1)  **K. S. R. PRASAD**
- 2)  **G. H. R. PRASAD**

Signature of the Examiners: -

- 1) 
- 2) 


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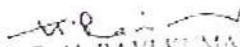


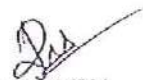
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Has been successfully carried out at Suggatta and Gantiganahalli Village, by RAKESH GOWDA C S bearing U.S.N.1MV21CV422 student of 6th semester, B.E. Civil under our supervision and guidance and has submitted the report as per the requirements of Visvesvaraya Technological University, during the academic year 2022-2023.


Dr. H. RAVI KUMAR
Associate Prof. and Head
Department of civil engineering

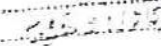

Smt. RAMYA
Asst. Professor & Camp officer


Dr. SHIVANNA S
Associate Professor & Camp officer

Name of the Examiners: -

- 1) KVR Ramesh
- 2) SACHIN K.B.

Signature of the Examiners: -

- 1) 
- 2) 


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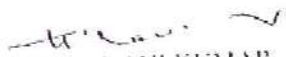
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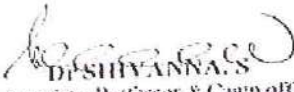
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Department of civil engineering

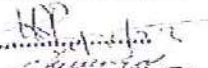
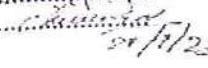

Smt. RAMYA
Asst. Professor & Camp officer

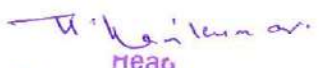

D. SHIVANNA S
Associate Professor & Camp officer

Name of the Examiners: -

- 1)*L.N.R. PRASAD*.....
- 2)*CHETAN A.S.*.....

Signature of the Examiners: -

- 1).....
- 2).....


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI, KARNATAKA



Project Phase-2(18CVP83)

Report on

FLY ASH BASED PAPERCRETE BLOCKS

An Economical & Eco-Friendly Light-Weight Building Solution

Submitted in partial fulfillment of the requirements for the award of Degree of

BACHELOR OF ENGINEERING IN CIVIL ENGINEERING

Under Visvesvaraya Technological University

Belagavi -590014.

Submitted by

CHITHRA YADAV N (1MV19CV006)

DRUVA KUMAR B S (1MV19CV009)

TANUJA S (1MV19CV027)

DEPARTMENT OF CIVIL ENGINEERING

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

BANGALORE-562157



Under the guidance of

ANITHA J

Assistant professor

Department of Civil Engineering

Sir M Visvesvaraya Institute of Technology

Bangalore- 562157

2022-23

U. Hanumanth
head
Dept. of Civil Engg.
MVIT, Bangalore-562 157

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Certified that the project work entitled "Fly Ash Based Papercrete Blocks-An Economical & Eco-Friendly Light-Weight Building Solution" is a bonofied work carried out by

Name of the student
CHITHRA YADAV N
DRUVA KUMAR B S
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In partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering in Civil Engineering, Visvesvaraya Technological University, Belgaum during the year 2022-2023. It is certified that all corrections / suggestion indicated for Internal Assessment have been incorporated in the Report. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

Signature of the Guide

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ACKNOWLEDGEMENT

We are grateful to the Management of SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY, BENGALURU for permitting us to undertake this Project.

Our deep scene of gratitude goes to Prof Rakesh S G, Principal, SIR.MVIT for all his encouragement throughout Project.

It's our immense pleasure in thanking Dr Ravikumar H, HOD, Department of civil engineering, SIR.MVIT, for his timely guidance in the conducting of our Project.

We are gratitude to our guide Mrs. Anitha J, Department of civil engineering, SIR.MVIT for their guidance and all their valuable assistance during Project.

We also express our immense pleasure and deep sense of gratitude to the Teaching and Non - Teaching Staff members of Civil Engineering Department, Sir M. Visvesvaraya Institute of Technology for their heart full cooperation and support.

Finally, We would like to thank and acknowledge the help given to us by our parents and friends, without whom this seminar report would not have reached its completion

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Abstract

The increasing carbon dioxide (CO₂) emissions resulting from cement production in the construction industry have become a global concern. To address the environmental impact associated with cement manufacturing and the depletion of natural resources, the development of alternative materials for sustainable construction is crucial. Additionally, the mounting challenge of waste disposal necessitates finding effective solutions for managing waste paper, as landfills are projected to reach their capacity due to the growing production of waste. This paper presents a comprehensive review of national and international references, highlighting the current state-of-the-art in research and development on papercrete a novel composite material that utilizes waste paper as an additive.

Papercrete is a sustainable building material made by combining waste paper fibers with a mixture of cement, sand, and water. The addition of waste paper fibers enhances the properties of the mixture, including improved thermal insulation, sound absorption, and reduced environmental impact. Papercrete offers numerous advantages in the construction industry, including a low carbon footprint, utilization of recycled materials, low embodied energy, high strength-to-weight ratio, aesthetic appeal, and cost-effectiveness. Although research on papercrete is ongoing globally, it is yet to be formally recognized by Indian standard practices, codes, and major building material organizations.

This abstract emphasizes the urgent need to adopt sustainable practices in the construction industry. The utilization of papercrete presents a promising solution by reducing cement consumption and effectively recycling waste paper. However, further research, recognition, and integration into Indian building material standards and practices are essential to fully realize the potential of papercrete as a sustainable building material in India.

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Fly Ash Based Papercrete Blocks

2022-23

CHAPTER 1

Introduction

1.1 Introduction.

Papercrete is a versatile composite material that is made up of recycled paper fibers, cement, sand and additives to create a sustainable building material. With growing concerns about environmental impact and the need for sustainable construction practices, papercrete offers a promising solution by utilizing waste paper and reducing waste generated from the traditional materials. This project focuses on investigating the mechanical properties of papercrete blocks, evaluating their suitability for sustainable construction applications, while also exploring the historical background of papercrete.

Papercrete is a composite material that has emerged as a promising alternative in sustainable construction practices. It is created by incorporating waste paper fibers into a mixture of cement, sand, and water. This innovative material offers several advantages, including reduced environmental impact, improved thermal insulation, and effective waste management. In this report, we delve into the composition, history, and potential applications of papercrete in the construction industry.

The concept of using paper in construction dates back several decades, with early experiments in the 1920s and 1930s. However, it was in the 1970s that the term "papercrete" was coined and gained attention as an eco-friendly building material. Over the years, researchers and engineers have made advancements in the composition and manufacturing processes of papercrete, aiming to improve its strength, durability, and overall performance.

This project aims to provide valuable insights into the mechanical behavior of papercrete blocks, contributing to the growing body of knowledge on sustainable construction materials. By investigating the mechanical properties of papercrete, we strive to promote the adoption of eco-friendly construction practices that prioritize resource conservation and minimize environmental impact.

The findings of this project have the potential to revolutionize the construction industry by offering a sustainable alternative that aligns with the principles of environmental stewardship. As sustainable construction practices continue to gain prominence, the investigation of materials like

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Fly Ash Based Papercrete Blocks

2022-23

papercrete becomes increasingly important in meeting the demand for more sustainable building practices.

1.2 Objective of the Proposed Research work

- **Evaluate the compressive strength of papercrete blocks**
This involves conducting compressive strength tests to measure the load-bearing capacity of papercrete blocks. The aim is to assess the structural performance of papercrete blocks under different loading conditions.
- **Investigate the water absorption characteristics of papercrete blocks**
The objective is to determine the rate and extent of water absorption in papercrete blocks, which helps evaluate their resistance to moisture-related damage. This analysis focuses on understanding the durability and long-term performance of papercrete blocks in various environmental conditions.
- **Analyze the structural integrity of papercrete block compositions**
This objective involves examining the composition of papercrete blocks, including the ratio of paper fibers to cement and the presence of any additives. The aim is to assess the overall structural integrity and stability of papercrete blocks, identifying the optimal mix design for achieving desired mechanical properties.
- **Compare the mechanical properties of papercrete blocks with conventional construction materials**
The study aims to conduct a comparative analysis of the mechanical properties, such as compressive strength and water absorption, between papercrete blocks and traditional construction materials like concrete or clay bricks. This objective seeks to determine the suitability of papercrete blocks as an alternative building material.
- **Provide insights for the application of papercrete blocks in sustainable construction projects**
Based on the research findings, this objective aims to offer recommendations and guidelines for the use of papercrete blocks in sustainable construction applications. The goal is to inform engineers, architects, and construction professionals about the potential benefits and limitations of utilizing papercrete blocks in their projects.
- **Contribute to the knowledge base on sustainable construction materials**
The study aims to generate new knowledge and contribute to the existing body of research on sustainable construction materials by investigating the mechanical properties of papercrete blocks. This objective seeks to advance the understanding and adoption of eco-friendly building materials in the construction industry.

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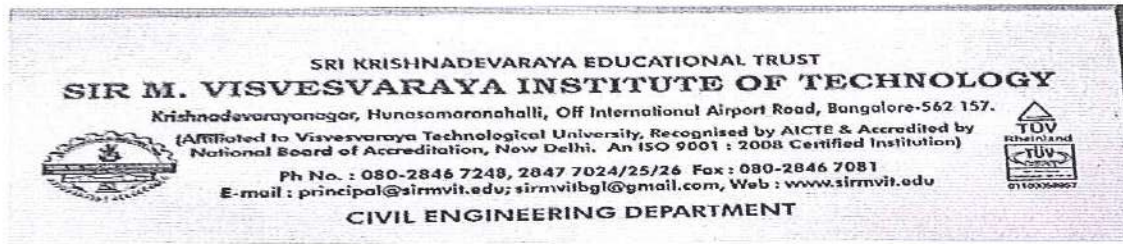
WEBINAR

CHALLENGES IN CONSTRUCTION OF TALLBRIDGES IN THE NORTH-EAST

T. K. Srinivas
HEAD
Dept. of Civil Engg.
MVIT, Bangalore-562 157

DECEMBER 07, 2020

Department of Civil Engineering Sir MVIT,
Bangalore.



WEBINAR

Subtitle Text Here**CHALLENGES IN CONSTRUCTION OF TALL BRIDGES IN THE NORTH-EAST**

Organized by Department of Civil Engineering, Sir MVIT, Bangalore.

Speaker – Mr. SAI BABA ANKALA, ME, MBA, IRSE, PhD (*)

Chief Engineer

Indian Railways (Govt. of India)

Principal – Dr. V R Manjunath

Convener – Mr. H P Mahendra Babu, HOD, Department of Civil Engineering.

Coordinators

- Mr. K V R Prasad, Associate Professor, Department of Civil Engineering
- Dr. Shivanna S, Associate Professor, Department of Civil Engineering
- Dr. Ravi Kumar H, Associate Professor, Department of Civil Engineering
- Mrs. Anitha J, Assistant Professor, Department of Civil Engineering

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**DEPARTMENT OF CIVIL ENGINEERING
PRESENTS**

A WEBINAR ON

**CHALLENGES IN
CONSTRUCTION OF TALL
BRIDGES IN THE NORTHEAST**



By: SAI BABA ANKALA, ME, MBA, IRSE, (PhD)
Chief Engineer, Indian Railways (Govt. of India)



Scan here to join..!

DECEMBER 7TH 2020

10:00 AM - 11:30 AM

Registration URL: <https://forms.gle/d6ceukRwueWzfhsl6>

Join the meet : <https://meet.google.com/zgr-zolp-blf>



Convener

Co-ordinator(s)

Mr H P Mahendra Babu

Mr K V R Prasad

Prof. & Head of Department

Dr Shivanna S

5. Certificate

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BIO DATA

SAI BABA ANKALA, ME, MBA, IRSE, PhD (*)

Chief Engineer

Indian Railways (Govt. of India)



Education:

B.Tech in Civil Engineering from SVU College of Engineering, Tirupati

M.E. in Structural Engineering from Indian Institute of Science, Bangalore

MBA in Information Technology from JNTU, Hyderabad

Ph.D (*) in Infrastructure Management from IIT, Guwahati

Academic achievements:

Rank holder and Gold medalist in UG and PG

Topper in GATE (99.31%), IES (Indian Engineering Services)/ IRSE & APPSC

Fellow member in technical bodies like IEI, IIBE, IPWE, ASCE, DFI

Professional achievements:

Having 35 years' experience in Major infra projects of Railways, Metrorail, Multi-modal transport systems and Mega-bridges from design to construction.

Major projects handled:

- India's first Cable-Stayed Road-Over-Bridge at Bangalore
- 1250km new railway lines in India
- 5250 major RCC/ PSC/ steel bridges for high density railway loading
- 245 Road bridges including Road-Over Bridges/ Flyovers and
- Metrorail projects of Bangalore, Hyderabad and Trivandrum
- India's first double-decker (metro-cum-highway) integral PSC flyover
- World's Tallest Rail Bridge (141m) and Longest tunnel in Northeast (10.5km)
- Five International rail projects from concept to commissioning
- Innovations in sustainable design and construction of major bridges
- Design co-ordination of Bogibheel bridge (longest rail-cum-road bridge)

Awards & Accolades:

- Prime Minister award for innovative idea of "Integrated Green Logistic Parks"
- International award from Bentley Systems for design of tallest rail bridge

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REPORT ON

Webinar

“Challenges in construction of tall bridges in the North-East”

CONDUCTED ON 7TH OF DECEMBER, 2020

India, a country with a total area of approx. 3.2 million sq. km. has around 23 % of its area covered with densely forested, thinly populated hills. Human habitation and Vegetation spreads to altitudes as high as 14000 to 16000 feet above Mean Sea Level.

Hilly region pose unique problem for bridge construction. In a restricted hilly area itself climatic conditions, geological features and hydrological parameters vary considerably. Keeping in view the bridge site and various constraints, type of bridge and method of construction are to be selected carefully for safe, economical and successful completion of bridge construction.

Deep gorges, rivers with boulder beds, extremely low temperature condition, high winds, landslide etc. in hilly regions require special attention to complete the activities of bridge planning and construction in a systematic way.

While Tall bridges offer a ease of travelling comfort, the construction process involves many complex problems that have to be addressed on day to day basis, especially in the topography that North-East of India offers.

This webinar was organized by Department of Civil Engineering Sir MVIT on 07/12/2020, for the students, staffs, research scholars and others working in the field of Civil Engineering,

The program was conducted over Google Meet Platform, and had 115 active participants.

The program started at 10.00 am IST. Mr. H.P Mahendra Babu, Professor & Head of Civil Engineering Department, Mr. KVR Prasad, Dr. Shivanna S, and Dr. Ravi Kumar H, addressed the gathering and commenced the program.

This was followed by welcome address by Mr. H.P Mahendra Babu, Professor & Head of Civil Engineering Department.

Dr. Ravi Kumar H, Associate Professor, introduced and welcomed the speaker to start with his presentation.

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Mr. Sai Baba Ankala, Chief Engineer, Indian railways (GOI), gave an elusive talk on the various challenges that are faced in the construction of tall bridges in the North-East. He spoke elaborately on various issues starting from transport of the materials, managing labors, challenges due to topography, weather etc.

Participants showed active participation by asking questions during the question & answer session, the speaker, Mr. Sai Baba Ankala, answered all of the questions.

The session ended with thanks to the speaker and all the attendees, by Mr. KVR Prasad, Associate Professor, Department of Civil Engineering, Sir MVIT, Bangalore.

The webinar on Challenges in construction of tall bridges in the North-East would aims to address several program outcomes related to bridge engineering principles and practices. Here are some of the program outcomes that the webinar aims to address:

Sl. No.	Outcomes	POs Addressed
1	Knowledge and understanding of bridge engineering principles: The webinar would provide participants with knowledge and understanding of bridge engineering principles, including structural analysis, design considerations, and construction techniques.	PO1, PO6, PO7, PO8
2	Understanding of challenges in construction of tall bridges in the North-East: The webinar would provide participants with an understanding of the challenges involved in constructing tall bridges in the North-East, including geological and environmental factors, logistical challenges, and regulatory considerations.	
3	Ability to evaluate different design options: The webinar would provide participants with the skills and knowledge necessary to evaluate different design options for tall bridges in the North-East, including the use of different materials, structural systems, and construction methods.	
4	Ability to identify and address construction challenges: The webinar would help participants develop the ability to identify and address construction challenges related to tall bridge construction in the North-East, including the	

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	management of construction logistics and the mitigation of environmental impacts.	
5	Critical thinking and problem-solving skills: The webinar would participants develop critical thinking and problem-solving skills related to bridge engineering, including the ability to identify and resolve issues related to construction challenges and design considerations.	
6	Ethics and professionalism: The webinar would aim to provide participants with an understanding of ethical and professional standards related to bridge engineering, including the importance of safety and quality in bridge construction	

By addressing these program outcomes, the webinar on Challenges in construction of tall bridges in the North-East would aim to equip participants with the skills and knowledge they need to design and construct safe and efficient tall bridges in challenging environments.


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Registration Form - Challenges in Construction of Tall Bridges in the North-East. (Responses)

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Feedback Form - Challenges in Construction of Tall Bridges in the North-East. (Responses)

Sl. No.	Email Address	Full Name	Contact Number	Organization	Designation	How satisfied were you with the event?	How satisfied were you with the session content?	Did the program help you gain Engineering knowledge?	The program addressed usage of modern tools in Civil engineering.	What were the key takeaways from the webinar?
1	anithajayan@gmail.com	Anitha J	9742926612	Sir MVT	Assistant Professor	5	5	Yes	Yes	Information
2	janardhanakumaraswam	JANARDHANA K	9886213568	SIR MVT	ASSOCIATE PROFESSOR	3	3	Yes	Yes	Planning, Contents
3	periyavaramsandeepreddy	Periyavaram sandeep reddy	9010891224	Sir mvt	Civil	5	4	Yes	Yes	Good
4	bhavanagb@gmail.com	Bhavana G B	8431449565	Uvce	Student	5	5	Yes	Yes	Challenges
5	akashjadhav6993@gmail.com	Akash jadhav	8431225147	Civil engineering department sir Mvt bangalore	student	5	5	Yes	Yes	Good
6	mdhinmayavikas@gmail.com	MADAKASIRA CHINMAYA VIKAS	9440140041	Sir M Visvesvaraya Institute of technology	Student	5	5	Yes	Yes	Learned about railways
7	suresh.b@veva.edu.in	Suresh B	9845065270	REVA University	Assistant Professor	5	5	Yes	Yes	INDIAN RAILWAYS
8	pradeepasai1980@gmail.com	PRADEEPA S	9888610709	SIR MVT	ASSISTANT PROFESSOR	5	5	Yes	Yes	KNOWLEDGE
9	vincent.sairus*1@gmail.com	Vincent Sairus Gera	9074398759	Noorul Islam College of Engineering, Tamil Nadu	Final Year Student	5	5	Yes	Yes	Enhanced Knowledge Ideas about Construction of bridges in different areas
10	chandananmr63@gmail.com	Chandana M R	9663931939	Sir M Visvesvaraya Institute of technology	Student	4	4	Yes	Yes	As sir said we should face it as challenges rather than treating it as problems ... and got to know about the worlds tallest bridge to sir
11	prabhakarmallipatis6@gmail.com	Prabhakar	9535734262	UVCE Bangalore	Student	5	5	Yes	Yes	Opportunities for the future. The stability of bridge structures.
12	navyar64@gmail.com	Navya R	7899007193	Sir M Visvesvaraya Institute of Technology	Student	5	5	Yes	Yes	planning, how to face the challenges in construction modern railway
13	c5686426117@gmail.com	Chethan kumar D N	9686426117	Sir M Visvesvaraya Institute of technology	Student	5	5	Yes	Yes	Soil cement blocks.
14	bhavya_civil@simvit.edu	Bhavya S	9900136198	Sir MVT	Civil Engineering	5	5	Yes	Yes	Knowledge on bridges
15	deepakshivakumar07@gmail.com	Deepak K S	9611085202	University visvesvaraya college of engineering (UVCE) bangalore university.	B.TECH student 3rd year.	5	5	Yes	Yes	Everything
16	rithugowda723@gmail.com	Rithushree.c	9591350544	Sir M Visvesvaraya institute of technology	Student	3	3	Yes	Yes	Highly inspiring lectures
17	43kumaranikil@gmail.com	Kumar Ankit	9113186546	Sir M Visvesvaraya Institute Of Technology	Student	5	5	Yes	Yes	
18	pushkarakash2@gmail.com	Akash Pushkar	9471252584	CIVIL ENGINEERING	B.E	5	5	Yes	Yes	

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20	vathsalaapavanshotty@9 mail.com	Vathsala N	9731952647	SIR MVIT	Student	5	5	Yes	Yes	
21	saiamara536@gmail.co m	Sai Ganesh C N	9980041279	Sir Mvit	Student	5	5	Yes	Yes	Good got a good knowledge about civil engineering
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23	ashishjain202027@gmail.com	Ashish	0948177545	-	Student	5	5	Yes	Great insight in the depth of the civil engineering...
24	lakshmilucky2802@gmail.com	LAKSHMI L	9380615908	University Visvesvaraya College of engineering	Student	4	4	Yes	I learnt more and well about structures and how to control the failures that occurs in structures
25	kirangowdag10@gmail.com	Kiran Gowda G	6386307394	Sir m Visveswaraya Institute of technology	Student	5	5	Yes	Mainly about the field works and construction
26	hnarendakumar@sbile du.in	Prof H NARENDRA KUMAR	+919916435 690	SJB Institute of Technology	Associate Professor	5	5	Yes	Technical details about construction of tall bridges in extreme conditions.
27	vyshnavismit@gmail.com	Vyshnavi D R	7204679593	Sir MVIT	Assistant Professor	5	5	Yes	accepting challenge and working on it
28	h.m.deepak7@gmail.com	H.M. Deepak Thippeswamy	9353266084	Sir M Visveswaraya Institute of Technology	Student	5	5	Yes	Modern Technology Career opportunities
29	jaganathpasar14@gmail.com	Jaganath pasar	9731018888	Smvit	Student	5	5	Yes	Knowledge about field works of engineers
30	adityakvikram@gmail.com	Aditya Vikram	0789909394	NICMAR	Student	5	5	Yes	It was a learning experience
31	simvitselvi@gmail.com	N TAMIL SELVI	+919632800 588	Sir MVVisveswaraya Institute of Technology	Assistant Professor	4	4	Yes	Informative
32	dr.shivanna_cv@smvit.edu	Dr. SHIVANNA S	8762042262	Sir MVIT	Associate Professor	5	5	Yes	Knowledge
33	akankshasuna2000@gmail.com	Akanksha	+919972830 522	Sir M Visveswaraya Institute of Technology	Student	5	5	Yes	Some of the ground reality like the habbing of engineers, the difficult terrains etc
34	sanjaycsr2000@gmail.com	Sanjay C	+919481942 091	Smvit	Student	5	5	Yes	Construction of tall Bridge facing adverse weather conditions
35	hujarathimarisha@gmail.com	M Manisha	9900289583	Sir M Visveswaraya Institute of technology	Student	4	4	Yes	Construction of tall bridges
36	ashwinia2504@gmail.com	Ashwini A	8494829096	Sir M Visveswaraya Institute of Technology	Student	4	5	Yes	Challenges in constructing tall bridges
37	tejasgowda.t.m@gmail.com	Tejasgowda TM	9164621641	Sir MVIT	Student	5	5	Yes	construction of tall bridges
38	lalikamarala@gmail.com	Kamala	8884883575	Sir MVIT	Student	4	4	Yes	I learnt about bridge
39	supriyav14062000@gmail.com	SUPRIYA V	9845565816	Sir M Visveswaraya Institute of Technology	Student	4	3	Yes	Learned about new software
40	vpgowda108@gmail.com	Vijay P	8660214064	Sir M. Visveswaraya Institute of technology. bangalore	Student	5	5	Yes	construction of tall bridges
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2.3.1: STUDENT CENTRIC LEARNING METHODS



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A DISSERTATION REPORT
On

Gastro-Intestinal Tract Image Segmentation

Submitted in Partial Fulfillment of the requirement for the award of the degree of

BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND ENGINEERING

Submitted By

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Abhigyan Singh
Anurag Yadav

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Carried out at
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Under the guidance of
Mr. Elayaraja P
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**Department of Computer Science and Engineering****SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY****Bengaluru - 562157****Department of Computer Science and Engineering****CERTIFICATE**

This is to certify that the project work entitled "Gastro-Intestinal Tract Image Segmentation" is a bonafide work carried out by Aakash Tyagi(1MV19CS001), Abhigyan Singh(1MV19CS002), Anurag Yadav(1MV19CS016) in partial fulfillment for the award of Bachelor of Engineering in Computer Science and Engineering of Visvesvaraya Technological University, Belagavi during the year 2022-2023. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements with respect to project work prescribed for the Bachelor of Engineering degree.

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Dept. of CSE, SMVIT

Signature of Guide

Mr. Elaiyaraja P

Assistant Professor

Dept. of CSE, SMVIT

External Examiners:**Name of the Examiners**

1. Dr. Malathi S G
2. Dr. Santhya

Signature with Date

23/05/23

23/05



Department of Computer Science and Engineering

DECLARATION

We **Aakash Tyagi(1MV19CS001), Abhigyan Singh(1MV19CS002), Anurag Yadav(1MV19CS016)**, Student of VIII semester B.E in Computer Science and Engineering at Sir M. Visvesvaraya Institute of Technology, Bengaluru, hereby declare that this dissertation work entitled **“Gastro-Intestinal Tract Image Segmentation”** has been carried out at Dept. of CSE, Sir M. Visvesvaraya Institute of Technology under the guidance of guide **Mr. Elaiyaraja P, Asst. Professor, Dept. of CSE, Sir M. Visvesvaraya Institute of Technology, Bengaluru**, and submitted in the partial fulfillment for the award of the degree Bachelor of Engineering in Computer Science and Engineering of Visvesvaraya Technological University, Belagavi during the academic year 2022-2023. We further declare that the report had not been submitted to any other university for the award of any other degree.

**Place: Bengaluru Date:
12-05-2023**

**Aakash
Tyagi(1MV19CS001),**

**Abhigyan
Singh(1MV19CS002),**

**Anurag
Yadav(1MV19CS016),**



ABSTRACT

This paper presents our approach to the ongoing Kaggle UW-Madison GI Tract Image Segmentation Research. In order to enhance cancer treatment and reduce radiation exposure, radiation oncologists work to deliver high doses of radiation to the tumor while avoiding the stomach and intestines on MRI images. Correctly segmenting the stomach and intestines is the goal of this task. It is a time-consuming and physically demanding task for a radiation oncologist to hand draw the location of the stomach and intestine. If the stomach and intestines could be segmented using advanced tools and technology like that of deep learning models, this treatment may be finished sooner and more patients might get better care. The segmentation procedure might be automated by using deep learning models to help with this. Use U-Net to divide the organ areas. The validation set's Dice score (F1-score) for the top U-Net model is 0.87.



Department of Computer Science and Engineering

ACKNOWLEDGEMENT

It gives us immense pleasure to express our sincere gratitude to the management of Sir M. Visvesvaraya Institute of Technology, Bengaluru for providing the opportunity and the resources to accomplish our project work in their premises.

On the path of learning, the presence of an experienced guide is indispensable and we would like to thank our guide Mr. Elaiyaraja P, Asst. Professor, Dept. of CSE, for her invaluable help and guidance.

Heartfelt and sincere thanks to Dr. T. N. Anitha, HOD, Dept. of CSE, for her suggestions, constant support and encouragement.

We would also like to convey our regards to Prof. Rakesh S G, Principal, Sir MVIT for providing us with the infrastructure and facilities needed to develop our project.

We would also like to thank the staff of the Department of Computer Science and Engineering and lab-in-charges for their co-operation and suggestions. Finally, we would like to thank all our friends for their help and suggestions without which completing this project would not have been possible.

Aakash Tyagi(1MV19CS001)

Abhigyan Singh(1MV19CS002)

Anurag Yadav(1MV19CS016)

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Department of Computer Science and Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590010



INTERNSHIP REPORT

CSE CODING

Submitted in partial fulfillment for the requirements for the 3rd semester

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING

For the Academic Year 2022 - 2023

Submitted by:

SRUSHTI GOUDREDDY

1MV21CS107

Under the guidance of

DR.G.C.BHANU PRAKASH

HOD, Department of CSE



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

HUNASAMARANAHALLI,

BENGALURU-562157

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Krishnadevaraya Nagar, International Airport Road,
Hunasmaranahalli, Bengaluru – 562157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

It is certified that the **INTERNSHIP REPORT** entitled "**CSE CODING**" is carried out by **IMV21CS107** bonafide **SRUSHTI GOUDREDDY** of **Sir M Visvesvaraya Institute of Technology** in partial fulfillment for the 3rd semester for the award of the Degree of Bachelor of Engineering in Computer Science and Engineering of the **Visvesvaraya Technological University, Belagavi** during the academic year **2022-2023**. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the course of Bachelor of Engineering.

Name & Signature of Guide and HOD

Dr. G. C. Bhanu Prakash

Dept. Of CSE,

Sir MVIT

Bengaluru - 562157

Name & Signature of Principal

Dr. RAKESH S.G

Principal,

Sir MVIT

Bengaluru – 562157

Name of Mentors

1) **REKHA B.N**, Associate Professor

2) **KAVYASHREE G.M**, Assistant Professor

Signature with Date

Rekha B.N
3/4/23
Kavyashree G.M
Signature with Date
06/04/23

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Department of Computer Science and Engineering

DECLARATION

We hereby declare that the entire project work embodied in this dissertation has been carried out by us and no part has been submitted for any degree or diploma of any institution previously.

Place Bengaluru:

Date:

Signature of Student

SRUSHTI GOUDREDDY

1MV21CS107

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Department of Computer Science and Engineering

ABSTRACT

The internship report in broad-spectrum contains eight chapters in which I try to explain my one-month experience in my internship in SIR MVIT. The contents of all chapters are explained broadly and it is constructed from knowledge gained in internship classes. The goal of this internship is to learn about C++ with oops .As we know programming and problem solving using program plays an important role toward development of technology and artificial intelligence . So during this internship we learnt about the important of C++ , as it is used in majority of operating system. Wealso learnt about creating an object in C++ using oops concept, which helps the programmer to access real life entities .Here we learnt about the feature of oops in C++ such as classes, object, inheritance, polymorphism and encapsulation which made the program more connectable to real life entity.

In the opening chapter I gave details regarding the Introduction of C++, its application in various sectors. The second chapter gives brief information regarding Datatypes used in C++ their syntax and example and Operator and their types. Moving to third chapter we see the various types of loops and conditional statements used in C++. In the next chapters we see the Functions, Classes and Objects, OOP's concept. I was introduced to Hacker rank where I was able to solve problem statements related to topics learnt in the previous chapters, implement them in the problem in Hacker rank website, which increased my coding skills. I was introduced to Dev C++. The chapter 9 of this of report contains the source code of the Problem statements solved in Hacker rank. To end up chapter 10 I have attached the codes of assignment given for above topics which I implemented in Dev C++ and assignments related to MS office. Overall, the internship was a great experience and a knowledgeable one.

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Bengaluru – 562157



Department of Computer Science & Engineering

PRINCIPLES OF PROGRAMMING USING 'C'

LABORATORY

[22POP13]

(CHOICE BASED CREDIT SYSTEM)

(Academic Year 2022-23)

1ST SEMESTER

Prepared By: SUPRIYA & RAVI KUMAR H R
Asst.Professor.

Under the Guidance of
Dr. G C Bhanu Prakash, Prof & Head.

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Department Vision and Mission

VISION

To build a center for imparting quality technical education and carrying out research activity to meet the current and future challenges in the domain of Computer Science and Engineering.

MISSION

- M1:** The computer science and engineering department strives for excellence in teaching, applying, promoting and imparting knowledge through comprehensive academic curriculum.
- M2:** Train students to effectively apply the knowledge to solve real-world problems, thus enhance their potential for a life-long high-quality career and give them a competitive advantage in the ever-changing and fast-paced computing.
- M3:** Prepare students to demonstrate a sense of societal and ethical responsibilities in their professional endeavors.
- M4:** Creating amongst students and faculty a collaborative environment, open to the free exchange of ideas which leads to research activity and fuels innovative thinking.

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E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu**Department of Computer Science and Engineering****SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY**(Affiliated to VTU, Recognized by AICTE and Accredited by NBA, NAAC
and an ISO 9001-2008 Certified Institution)
Bengaluru – 562157**PROGRAM OUTCOMES**

PO's	PO Description
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
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PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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**PROGRAM EDUCATIONAL OBJECTIVES**

PEO's	PEO Description
PEO1	The graduates exhibit professionalism, communication skills for effective teamwork and will have a successful career as Information Technology professionals and work with values and social concern.
PEO2	The graduates have strong foundation in the mathematical, scientific and engineering fundamentals and Engineering practices necessary to formulate, solve and analyze engineering problems which enables them for higher education, research and development activities.
PEO3	The graduate demonstrate lifelong learning in the field of computation by up-gradation of knowledge skills and abide by professional ethics.

PROGRAM SPECIFIC OUTCOMES

PSO's	PSO Description
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**Department of Computer Science and Engineering****Programming Assignments**

1. Simulation of a Simple Calculator.
2. Compute the roots of a quadratic equation by accepting the coefficients. Print appropriate messages.
3. An electricity board charges the following rates for the use of electricity: for the first 200 units 80 paise per unit; for the next 100 units 90 paise per unit; beyond 300 units Rs 1 per unit. All users are charged a minimum of Rs. 100 as meter charge. If the total amount is more than Rs 400, then an additional surcharge of 15% of total amount is charged. Write a program to read the name of the user, number of units consumed and print out the charges.
4. Write a C Program to display the following by reading the number of rows as input,

```
11 2 11 2 3 2 11 2 3 4 3 2 1-----
```


 n^{th} row
5. Implement Binary Search on Integers.
6. Implement Matrix multiplication and validate the rules of multiplication.
7. Compute $\sin(x)/\cos(x)$ using Taylor series approximation. Compare your result with the built-in library function. Print both the results with appropriate inferences.
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9. Write functions to implement string operations such as compare, concatenate, and find string length. Use the parameter passing techniques.
10. Implement structures to read, write and compute average-marks of the students, list the students scoring above and below the average marks for a class of N students.
11. Develop a program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of N real numbers.
12. Write a C program to copy a text file to another, read both the input file name and target file name

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**Department of Computer Science and Engineering**

	SRI KRISHNADEVARAYA EDUCATIONAL TRUST SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY (Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC) Krishnadevarayanagar, Off International Airport Road, Hunasamarahanahalli, Bengaluru - 562 157	
	DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING	

PRINCIPALS OF PROGRAMMING USING 'C'

[BPOPS103]

CHOICE BASED CREDIT SYSTEM

I Semester B.E

(Academic Year 2022-2023)

Name : <u>Channabasava</u>	
USN : <u>H - 46</u>	Branch : <u>CSE</u>
Semester : <u>Ist Sem</u>	Section : <u>H</u>

Compiled and Prepared by:

Mrs. Supriya
 Assistant Professor.
 Dept. of CSE

Under the Guidance of:

Dr. Anitha T.N
 Professor. & Head
 Dept. of CSE

Department Vision and Mission**VISION**

- To build a center for imparting quality technical education and carrying out research activity to meet the current and future challenges in the domain of Computer Science and Engineering.

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that Mr. / Ms.

Channabasava

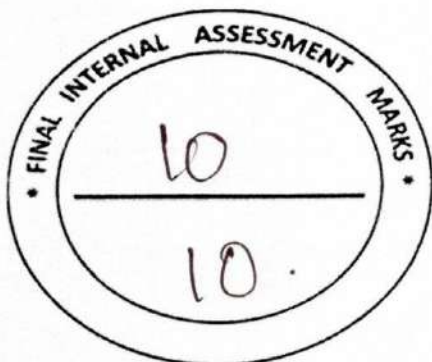
bearing USN 1H - 46 has completed

the

PRINCIPALS OF PROGRAMMING USING 'C': BPOPS103 prescribed

by Visvesvaraya Technology University for semester I , academic year

2022-2023



Supriya
24/3/23
Name and Signature of Staff

Signature of HOD

**Department of Computer Science and Engineering****PRINCIPALS OF PROGRAMMING USING 'C'****BPOPS103****Syllabus****PRINCIPALS OF PROGRAMMING USING 'C'**

(Effective from the academic year 2022 -2023)

SEMESTER – I

Course Code	BPOPS103	CIE Marks	50
Number of Contact Hours/Week	2:0:2	SEE Marks	50
Total Number of Lab Contact Hours	40	Exam Hours	03 +02
Credits – 3			
Course Learning Objectives: This course (BPOPS103) will enable students to:			
• CLO 1. Elucidate the basic architecture and functionalities of a Computer • CLO 2. Apply programming constructs of C language to solve the real-world problems • CLO 3. Explore user-defined data structures like arrays, structures and pointers in implementing solutions to problems • CLO 4. Design and Develop Solutions to problems using structured programming constructs such as functions and procedures			
Programs List:			
1.	Simulation of a Simple Calculator.		
2.	Compute the roots of a quadratic equation by accepting the coefficients. Print appropriate messages.		
3.	An electricity board charges the following rates for the use of electricity: for the first 200 units 80 paise per unit; for the next 100 units 90 paise per unit; beyond 300 units Rs 1 per unit. All users are charged a minimum of Rs. 100 as meter charge. If the total amount is more than Rs 400, then an additional surcharge of 15% of total amount is charged. Write a program to read the name of the user, number of units consumed and print out the charges.		
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Department of Computer Science and Engineering

PRINCIPALS OF PROGRAMMING USING 'C'
BPOPS103
Lab Program No: 1
1. Simulation of a Simple Calculator.
Algorithm:

Step 1 = start

Step 2 = Read a number a, b

Step 3 = Switch(Op)

 case '+': $c = a + b$;

break;

 case '-': $c = a - b$;

break;

 case '*': $c = a * b$;

break;

 case '/': $c = a / b$;

break;

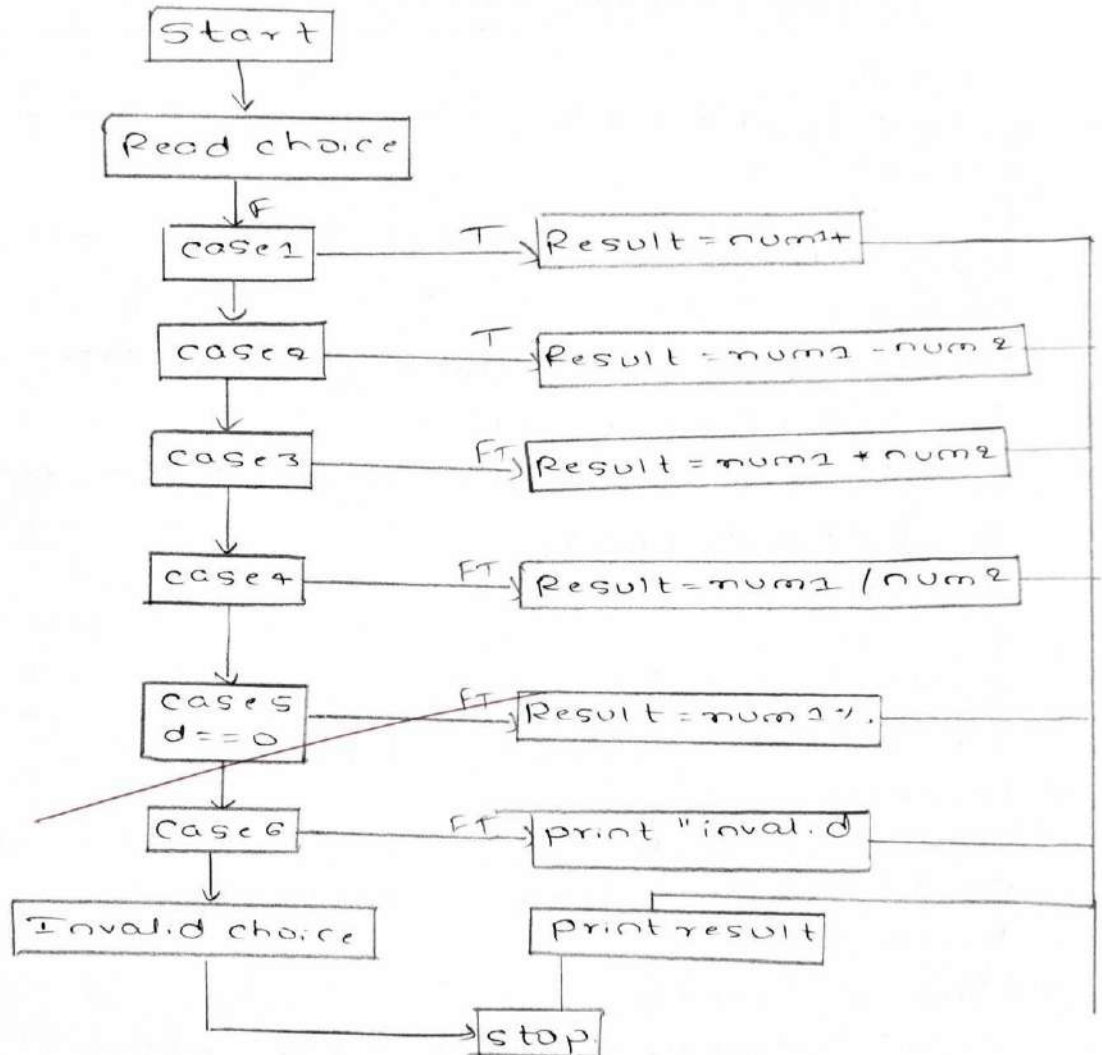
default: (message)

Step 4 = display op

Step 5 = stop.

**Department of Computer Science and Engineering****PRINCIPALS OF PROGRAMMING USING 'C'****BPOPS103**

Flow chart:



**Department of Computer Science and Engineering****PRINCIPALS OF PROGRAMMING USING 'C'****BPOPS103****Program:**

```

#include <stdio.h>
int main()
{
    float a,b,c;
    char op;
    printf("enter the values of a&b\n");
    scanf("%f %f", &a, &b);
    printf("for arithmetic op print +, -, /, *");
    scanf("%s", &op);
    switch(op)
    {
        case '+': c=a+b;
        printf("Sum of a & b = %f\n", c);
        break;
        case '-': c=a-b;
        printf("Sub of a & b = %f\n", c);
        break;
        case '*': c=a*b;
        printf("Multiple of a & b = %f\n", c);
        break;
        case '/': c=a/b;
        printf("Division of a & b = %f\n", c);
        break;
        default: printf("error input and output\n");
        break;
    }
}

```




Department of Computer Science and Engineering

PRINCIPALS OF PROGRAMMING USING 'C'

BPOPS103

Output:

```

enter the values of a & b.
2
3
for arithmetic op print +, -, /, *, %.
Sum of a & b = 5.000000.
enter the value of a & b
4
5
for arithmetic op print +, -, /, *.
Sub of a & b = -1.000000
enter the value of a & b
6
5
for arithmetic op print +, -, /, *.
multiple of a & b = 30.000000
enter the values of a & b
8
4
for arithmetic op print +, -, /, *.
division of a & b = 2.

```

11/1/2023

FLIPPED CLASS

Attendance Date	Program Name	Time Table Slot	Actual Staff Name	Subject Name	Division Code	Present Count	Absent Count	Total Students	Present Roll No CSV	Absent Roll No CSV	Is Not Attendance	Not Attendance Reason	Last Topic Taught	Lecture Lab Planning Name	Attendance Allowed	Class Mode	Class Platform	Class URL
17-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B-online	3	30	33			False		FC protocol stack, addressing and operations,	FC protocol stack, addressing and operations,	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf
17-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	3	27	30			False		FC protocol stack, addressing and operations,	FC protocol stack, addressing and operations,	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf

				ork s														
16-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	7	23	30			False		Topologies including access protection mechanism 'zoning',	Topologies including access protection mechanism 'zonin g',	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf
16-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B-online	5	28	33			False		Topologies including access protection mechanism 'zoning',	Topologies including access protection mechanism 'zonin g',	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf

15-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	3	27	30			False		Virtualization Fibre Channel SAN components, connectivity options ,	Virtualization Fibre Channel SAN components, connectivity options ,	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf
15-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B-online	4	29	33			False		Topologies including access protection mechanism 'zoning',	Topologies including access protection mechanism 'zoning',	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf
10-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A-online	10	20	30			False		Storage Networking Technologies	Storage Networking Technologies	False	Online	Google Meet	meet.google.com/zec-qmkd-ywf

				Are a Ne tw ork s														
10-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B- onl ine	4	29	33			False		Storage Networ king Techno logies	Storag e Netwo rking Techn ologie s	False	O nli ne	Go ogl e Met et	meet.g oogle.c om/zec -qmkd- ywf
09-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B- onl ine	2	31	33			False		virtual storage provisi oning and intellig ent storage system implem entatio ns	virtual storag e provisi oning and intellig ent storag e syste m imple	False	O nli ne	Go ogl e Met et	meet.g oogle.c om/zec -qmkd- ywf

														menta tions				
09-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A- online	7	23	30			False				False	Online	Google Meet	meet.google.com/zec-qmkd-ywf
05-12-2020	B.E. - CS	9:00 AM - 9:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B- online	3	26	29			False	the impact of RAID on applica tion perfor mance.	the impact of RAID on applica tion perfor mance.		False	Online	Google Meet	https://meet.google.com/gdf-qpeq-kwd

05-12-2020	B.E. - CS	9:00 AM - 9:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	8	18	26			False		the impact of RAID on application performance.	the impact of RAID on application performance.	False	Online	Google Meet	https://meet.google.com/gdf-qpeq-kwd
04-12-2020	B.E. - CS	1:30 PM - 2:20 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B-online	5	24	29			False		RAID implementations, techniques, and levels along with	RAID implementations, techniques, and levels along with	False	Online	Google Meet	https://meet.google.com/qis-kjif-vug
04-12-2020	B.E. - CS	1:30 PM - 2:20 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	8	18	26			False		RAID implementations, techniques, and	RAID implementations, techniques, and	False	Online	Google Meet	https://meet.google.com/qis-kjif-vug

				Are a Ne tw ork s								levels along with	levels along with				
02- 12- 202 0	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A - Off lin e	0	4	4			Fals e	and applica tion in both classic and virtual environ ments.	and applic ation in both classic and virtual enviro nment s.	False	Of fli ne		
02- 12- 202 0	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B - Off lin e	0	4	4			Fals e	and applica tion in both classic and virtual environ ments.	and applic ation in both classic and virtual enviro nment s.	False	Of fli ne		

01-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS – 7 – A – Offline	0	4	4			False		key data center elements, virtualization, and cloud computing.	key data center elements, virtualization, and cloud computing.	False	Offline		
01-12-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS – 7 – B – Offline	0	4	4			False		Key data center elements – Host (or computer), connectivity, storage ,	Key data center elements – Host (or computer), connectivity, storage,	False	Offline		
28-11-2020	B.E. - CS	9:00 AM - 9:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - B-online	15	14	29	69,71,75,6,9,18,46,57,58,59,60,64,65,66,67	72,76,17,20,22,23,29,30,33,40,47,49,51,61	False		revisio n module 1		False			

				Are a Ne tw ork s														
28-11-2020	B.E. - CS	9:00 AM - 9:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A- onl ine	19	7	26	3,4,14,27,32,34,40,42,44,54,62,64,68,69,70,71,73,76,78	2,31,36,57,60,61,77	Fals e		revisio n module 1		False			
27-11-2020	B.E. - CS	1:30 PM - 2:20 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B- onl ine	13	16	29	71,75,6,9,18,46,57,58,60,64,65,66,67	69,72,76,17,20,22,23,29,30,33,40,47,49,51,59,61	Fals e		module 1 revisio n		False			

27-11-2020	B.E. - CS	1:30 PM - 2:20 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-online	18	8	26	3,4,14,27,32,34,40,42,44,62,64,69,70,71,73,76,77,78	2,31,36,54,57,60,61,68	False		module 1revision		False			
26-11-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A-Offline	0	4	4		2,3,4,5	False				False			
26-11-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B-Offline	3	1	4	5,3,4	8	False				False			

				Are a Ne tw ork s														
25- 11- 202 0	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A - Off lin e	0	4	4		2,3,4,5	Fals e					False		
25- 11- 202 0	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B - Off lin e	0	4	4		8,5,3,4	Fals e					False		

24-11-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - Offline	0	4	4		2,3,4,5	False					False			
24-11-2020	B.E. - CS	11:00 AM - 11:50 AM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B - Offline	0	4	4		8,5,3,4	False					False			
20-11-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - B	0	0	0			True	Test 2				False	Online		

				Are a Ne tw ork s														
20- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	0	0	0			Tru e	Test 2			False	O nli ne		
19- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	0	0	0			Tru e	Test 2			False	O nli ne		

19-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	0	0	0			True	Test 2			False	Online		
18-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	6	24	30			False		Host and Storage Array Replication	Storage System Introduction to evolution of storage architecture ,	False	Online		
18-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - B	4	29	33			False		Host and Storage Array replication	Storage System Introduction	False	Online		

				e Are a Ne tw ork s									to evol ution of storag e archit ecture				
17- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	6	24	30			Fals e	Flip Class on DAS, NAS, SCSI.iS CSI, FCOE, compo nents of SAN, Benefit s	Cloud servic e manag ement activiti es	False	O nli ne		
17- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw	CS - 7 - B	3	30	33			Fals e	Flip Class on DAS, NAS, SCSI.iS CSI, FCOE, compo nents of SAN,	Cloud servic e manag ement activiti es	False	O nli ne		

				orks									Benefit s					
13-11-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	3	30	33			Fals e		Local Replica tion	storag e tiering	False	O nli ne		
13-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	3	27	30			Fals e		Local Replica tion	storag e tiering	False	O nli ne		

12-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	2	28	30			False		Flip Class on 2 videos- DAS, NAS, SAN	Information lifecycle management (ILM)	False	Online		
12-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	3	30	33			False		Flip Class- DAS, NAS, SAN 2 videos	Information lifecycle management (ILM)	False	Online		

11-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	8	22	30			False	Data redundancy, deduplication-Source and Target Side, SAN components and their connections with architecture	Monitoring and managing various information infrastructure components in classic and virtual environments,	False			
11-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	7	26	33			False	Data duplication, deduplication-Source and target side, SAN components	Monitoring and managing various information infrastructure	False			

				orks									and connec tivity with archite cture	comp onent s in classic and virtual enviro nment s,				
10- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	10	20	30			Fals e		DELL SAN- NAS Virtual tour of physica l compo nents	Securi ty in virtual ized and cloud enviro nment s,	False			
10- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw	CS - 7 - B	8	25	33			Fals e		DELL SAN- NAS Virtual tour of physica l compo nents	Securi ty in virtual ized and cloud enviro nment s,	False			

				orks														
06-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	4	26	30			False		NAS File Transfer Protocols_NFS and CIFS, SAN physical structure for small and medium businesses	count ermeasures in various domains Security solutions for FC-SAN, IP-SAN and NAS environments,	False			
06-11-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Ne	CS - 7 - B	8	25	33			False		NAS File Transfer Protocols_NFS and CIFS, SAN physical	count ermeasures in various domains Security	False			

				tw ork s									I structu re for small and mediu m busines s	solutio ns for FC- SAN, IP-SAN and NAS enviro nment s,				
05- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	14	16	30				Fals e	Kerber os ,Netwo rk- Layer Firewal ls ,IP SAN ,inform ation availabi lity and busines s continu ity solutio ns in both virtuali zed and non	imple menta tion at storag e netwo rking. Securi ty threat s,	False			

													virtualized environments					
05-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	9	24	33				False	Kerberos ,Network-Layer Firewalls ,IP SAN ,information availability and business continuity solutions in both virtualized and non	implementation at storage networking. Security threats,	False			

													virtualized environments				
04-11-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Areas	CS - 7 - A	9	21	30				False	phases of journey to the cloud, business drivers for cloud computing, definition of cloud computing, cloud infrastructure components, Cloud	Securing and Managing Storage Infrastructure This chapter focuses on framework and domains of storage security along	False		

												migrati on conside rations, charact eristics of cloud comput ing, steps involve d in transiti on from classic data center cloud comput ing environ ment	with coveri ng securit y.				
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													steps involve d in transiti on from classic data center cloud comput ing environ ment					
03- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	11	19	30				Fals e	semina r on Develo ping an Ideal Solutio n, Storage Manag ement Initiativ e,Perfo rmance Monito	Cloud migrat ion consid eratio ns	False			

													ring,Se curity Monito ring					
03- 11- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	13	20	33				Fals e	semina r on Develo ping an Ideal Solutio n, Storage Manag ement Initiativ e,Perfo rmance Monito ring,Se curity Monito ring	Cloud migrat ion consid eratio ns	False			

29-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	7	23	30			False		Security and Management of Storage Infrastructure: Components, Monitoring Parameters	Cloud infrastructure components	False			
29-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	3	30	33			False		seminar	Cloud infrastructure components	False			
28-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	12	18	30			False		Security issues	Steps involved in transitioning from	False			

				e Are a Ne tw ork s										Classic data center to Cloud comp uting enviro nment Servic es and deploy ment model s,				
28- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	14	19	33			Fals e		securit y issues	Steps involv ed in transit ioning from Classic data center to Cloud comp uting enviro nment Servic es and deploy	False			

														ment model s,				
27- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	8	22	30			Fals e		semina r	Chara cterist ics of Cloud comp uting,	False			
27- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	9	24	33			Fals e		semina r	Chara cterist ics of Cloud comp uting,	False			

23-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	8	22	30			False		Seminar	Business drivers for Cloud computing, Definition of Cloud computing,	False			
23-10-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	6	27	33			False		Seminar	Business drivers for Cloud computing, Definition of Cloud computing,	False			

22-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	5	25	30			False		Security and Management of Storage Infrastructure: Components, Monitoring Parameters	phases of journey to the Cloud.	False			
22-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	7	26	33			False		seminar		False			
21-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	4	20	24			False		seminar topics for assignment	definition, essential charac	False			

				e Are a Ne tw ork s									teristi cs					
21- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	1	29	30			Fals e		semina r topic for assign ment	definit ion, essent ial charac teristi cs	False			
20- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	7	17	24			Fals e		semina r	Cloud Comp uting Chara cterist ics and benefi ts This unit focuse s on the	False			

														busine ss driver s,				
20- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	11	19	30			Fals e		semina r	Cloud Comp uting Chara cterist ics and benefi ts This unit focuse s on the busine ss driver s,	False			
16- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw	CS - 7 - A	9	15	24			Fals e		Securin g and Managi ng Storage Infrastr ucture, implem entatio n at storage networ	Three- site remot e replica tion and contin uous data protec tion	False			

				ork s									king, securit y threats				
16- 10- 202 0	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	9	21	30			Fals e		Securin g and Managi ng Storage Infrastr ucture, implem entatio n at storage networ king, securit y threats	Three- site remot e replica tion and contin uous data protec tion	False		
15- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne	CS - 7 - A	6	18	24			Fals e		Semina r	Remot e replica tion in classic and virtual enviro nment s,	False		

				tw ork s														
15- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	11	19	30			Fals e		semina r	Remot e replica tion in classic and virtual enviro nment s,	False			
14- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	5	19	24			Fals e		semina r topics for assign ment	Fixed conte nt and data archiv e, Local replica tion in classic and virtual enviro nment s,	False			

14-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	8	22	30			False		seminar topic for assignment	Fixed content and data archive, Local replication in classic and virtual environments,	False			
13-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	2	22	24			False		discussed about internal Test1	Data deduplication and backup in virtualized environment,	False			
13-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - B	2	28	30			False		discussed about internal Test 1	Data deduplication and backup	False			

				rag e Are a Ne tw ork s									p in virtual ized enviro nment ,				
09- 10- 202 0	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	0	0	0			Tru e	Test1	conver ged protoc ol FCoE and its compo nents, Networ k Attach ed Storage (NAS)- compo nents, protoc ol and operati ons		False		

09-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	0	0	0			True	Test1	converged protocol FCoE and its components, Network Attached Storage (NAS)-components, protocol and operations		False			
08-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	0	0	0			True	Test1	Business continuity terminologies, planning and solutions		False			

08-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	0	0	0			True	Test1	Business continuity terminologies, planning and solutions		False			
07-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	3	21	24			False		Back up and recovery - methods, targets and topologies	Back up and recovery - methods, targets and topologies	False			
07-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - B	5	25	30			False		Back up and recovery - methods, targets	Back up and recovery - methods, target	False			

				Are a Ne tw ork s									and topolog ies	s and topolo gies,				
06- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	7	17	24			Fals e		Clusteri ng and multipa thing archite cture to avoid single points of failure	Cluste ring and multip athing archit ecture to avoid single points of failure ,	False			
06- 10- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	11	19	30			Fals e		Clusteri ng and multipa thing archite cture to avoid single points of failure	Cluste ring and multip athing archit ecture to avoid single points of	False			

														failure ,				
02-10-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	0	0	0			True	General Holiday Gandhi Jayanthi	converged protocol FCoE and its components, Network Attached Storage (NAS)-components, protocol and operations		False			

02-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	0	0	0			True	General Holiday Gandhi Jayanthi	converged protocol FCoE and its components, Network Attached Storage (NAS)-components, protocol and operations		False			
01-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	7	17	24			False		Business continuity terminologies, planning and solutions	Business continuity terminologies, planning and solutions,	False			

01-10-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	6	24	30			False	Business continuity terminologies, planning and solutions	Business continuity terminologies, planning and solutions,	False			
30-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	5	19	24			False	Backup , Archive and replication in virtualized and nonvirtualized environment	Backup , Archive and Replication This unit focuses on information availability and business continuity solutions	False			

														ns in both virtual ized and non- virtual ized enviro nment s.				
30- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	5	25	30					False	Backu p, Archiv e, and Replic ation This unit focuse s on inform ation availa bility and busine ss contin uity solutio ns in both	False			

														virtual ized and non- virtual ized enviro nment s.				
29- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	3	21	24			Fals e		File level storage virtuali zation, object based storage and unified storage platfor m	File level storag e virtual ization , Object based storag e and unifie d storag e platfor m	False			
29- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e	CS - 7 - B	5	25	30			Fals e		File level storage virtuali zation, object based	File level storag e virtual ization ,	False			

				Are a Ne tw ork s									storage and unified storage platfor m	Object based storag e and unifie d storag e platfor m				
25- 09- 202 0	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	4	74	78					conver ged protoc ol FCoE and its compo nents, Networ k Attach ed Storage (NAS)- compo nents, protoc ol and operati ons	Conve rged protoc ol FCoE and its comp onent s, Netwo rk Attach ed Storag e (NAS) - comp onent s, protoc ol and	False			

														operat ions				
25- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	6	73	79					conver ged protoc ol FCoE and its compo nents, Networ k Attach ed Storage (NAS)- compo nents, protoc ol and operati ons	Conve rged protoc ol FCoE and its comp onent s, Netwo rk Attach ed Storag e (NAS) - comp onent s, protoc ol and operati ons	False			

24-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	3	21	24			False	iSCSI and FCIP protocols for storage access over IP network	iSCSI and FCIP protocols for storage access over IP network,	False			
24-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	6	24	30			False	iSCSI and FCIP protocols for storage access over IP network	iSCSI and FCIP protocols for storage access over IP network,	False			
23-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	7	17	24			False	SAN-based virtualization and VSAN	SAN-based virtualization and VSAN	False			

				Are a Ne tw ork s								technol ogy	techn ology,				
23- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	8	22	30			Fals e	SAN- based virtuali zation and VSAN technol ogy	SAN- based virtual ization and VSAN techn ology,	False			
22- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	4	20	24			Fals e	FC protoc ol stack, addres sing and operati ons	FC protoc ol stack, addres sing and operati ons,	False			

22-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	10	20	30			False		FC protocol stack, addressing and operations	FC protocol stack, addressing and operations,	False			
18-09-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	8	22	30			False		Topologies including access protection mechanism - zoning	Topologies including access protection mechanism 'zoning',	False			
18-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	3	21	24			False		Topologies including access protection	Topologies including access protection	False			

				Are a Ne tw ork s									mecha nism- zoning	mecha nism 'zonin g',				
17- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	0	0	0			Tru e	Holid ay- Maha laya Amav asya			False			
17- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	0	0	0			Tru e	Holid ay- Maha laya Amav asya			False			

16-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	2	22	24			False		Virtualization Fibre Channel SAN components, connectivity options	Virtualization Fibre Channel SAN components, connectivity options,	False			
16-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	8	22	30			False		Virtualization Fibre Channel SAN components, connectivity options	Virtualization Fibre Channel SAN components, connectivity options,	False			
15-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	3	21	24			False		Storage Networking Technologies	Storage Networking Technologies	False			

				Are a Ne tw ork s														
15-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	10	20	30			False		Storage Networking Technologies	Storage Networking Technologies	False			
11-09-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	7	23	30			False		virtual storage provisioning and intelligent storage system implementations	virtual storage provisioning and intelligent storage system implementation	False			

														menta tions				
11-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	4	20	24			False		virtual storage provisioning and intelligent storage system implementations	virtual storage provisioning and intelligent storage system implementations	False			
10-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	4	20	24			False		Components of intelligent storage systems	Components of intelligent storage systems	False			

				orks													
10-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	9	21	30			False		Components of intelligent storage systems	Components of intelligent storage systems	False		
09-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	7	23	30			False		the impact of RAID on application performance	the impact of RAID on application performance .	False		
09-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA	17 CS 754 -	CS - 7 - A	5	19	24			False		the impact of RAID on	the impact of RAID	False		

			SWA MY	Sto rag e Are a Ne tw ork s									applica tion perfor mance	on applic ation perfor mance				
08- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - A	7	17	24			Fals e		RAID implem entatio ns, techniq ues, and levels	RAID imple menta tions, techni ques, and levels along with	False			
08- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw	CS - 7 - B	7	23	30			Fals e		RAID implem entatio ns, techniq ues, and levels	RAID imple menta tions, techni ques, and levels along with	False			

				ork s														
04-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	8	16	24			False		application in both classic and virtual environments	and application in both classic and virtual environments.	False			
04-09-2020	B.E. - CS	11:00 AM - 12:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	11	19	30			False		application in both classic and virtual environments	and application in both classic and virtual environments.	False			

03-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	8	16	24			False		Key data center elements - Host (or computer), connectivity, storage	Key data center elements – Host (or computer), connectivity, storage,	False			
03-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - B	11	19	30			False		Key data center elements - Host (or computer), connectivity, storage ,	Key data center elements – Host (or computer), connectivity, storage,	False			
02-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage	CS - 7 - A	9	15	24			False		key data center elements, virtualization,	key data center elements, virtualization	False			

				Are a Ne tw ork s								and cloud comput ing	, and cloud comp uting.				
02- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	11	19	30			Fals e	key data center elemen ts, virtuali zation, and cloud comput ing.	key data center elemen ts, virtual ization , and cloud comput ing.	False			
01- 09- 202 0	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUM A SWA MY	17 CS 75 4 - Sto rag e Are a Ne tw ork s	CS - 7 - B	11	19	30			Fals e	Storage System Introdu ction to evoluti on of storage archite cture,	Storag e Syste m Introd uction to evolut ion of storag e archit ecture ,	False			

01-09-2020	B.E. - CS	1:00 PM - 2:00 PM	Dr. SUMA SWAMY	17 CS 754 - Storage Area Networks	CS - 7 - A	5	19	24							Storage System Introduction to evolution of storage architecture ,	False			
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SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

2.3.1: STUDENT CENTRIC LEARNING METHODS

Sir M. Visvesvaraya Institute of Technology

Affiliated to VTU, Belagavi | Approved by AICTE, New Delhi / Government of Karnataka
Krishnadevaraya Nagar, Hunasamaranahalli, International Airport Road, Bangalore – 562157.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING PG & Research Center

Electronic Devices and Instrumentation Laboratory Manual 18ECL37

III Semester

Sir M. Visvesvaraya Institute of Technology

Krishnadevaraya Nagar, Hunasamaranahalli, International Airport Road, Bangalore – 562157.



Vision

- To be a centre of excellence in technical and management education concurrently focusing on disciplined and integrated development of personality through quality education, sports, cultural and co-curricular activities.
- To promote transformation of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

Mission

- To impart quality technical education, provide state-of-art facilities, achieve high quality in teaching-learning & research and encourage extra & co-curricular activities.
- To stimulate in students a spirit of inquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives.
- To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbibing professional ethics and societal commitment.
- To create an ambiance and nurture conducive environment for dedicated and quality staff to upgrade their knowledge & skills and disseminate the same to students on a sustainable long term basis.
- To facilitate effective interaction with the industries, alumni and research institutions.

Quality Policy

- We shall consistently endeavor to achieve high standards of quality in technical education and integrated personality development of students so as to meet the continuing demands of the society.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Vision

- To yield qualified and well trained students in the field of Electronics and Communication Engineering to light needs of the society and to shape them into competent engineers thorough with core knowledge and provide innovative services.

Mission

- To provide the need based technical education and encouraging research and development through industry interaction.
- To impart quality and value based education to raise satisfaction of all stake holders and society.
- Encourage students to become self-motivated, problem solving individuals who can find and understand the knowledge needed to be successful in the profession.

Program Education Objectives [PEOs] :

- Graduates will be employed within engineering fields and demonstrate technical competence, such as identifying, formulating, analyzing, and creating engineering solutions using appropriate current engineering techniques, skills, and tools.
- Graduates will be able to utilize their skills and knowledge to invent, design and realize novel technology, to find creative and innovative solutions to engineering problems and to identify, research and solve new technical challenges and will be receptive to new technological and cultural challenges through life-long learning such as advanced degrees, publications, presentations, awards, etc.
- Graduates will exhibit good citizenship and cultured mannerism and use their engineering ability and technical communication skill to embrace cultural, societal, environmental, and ethical issues in their work to help fulfil their professional responsibilities to themselves, employers, employees, co-workers, and the local, global communities and improve the quality of life in society.
- Graduates will excel in multi-disciplinary and multi-cultural teams, demonstrate leadership, and effectively employ their oral and written communication skills to resolve problems and inform, educate and persuade diverse audiences.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

- **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization for the solution of complex engineering problems
- **PO2: Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- **PO3: Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
- **PO4: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- **PO5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations.
- **PO6: The engineer and society:** Apply reasoning informed by the contextual knowledge to assess Societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- **PO7: Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
- **PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with the society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- **PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- **PO12: Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

ELECTRONIC DEVICES AND INSTRUMENTATION LABORATORY

Course Code : 18ECL37	CIE Marks : 40	SEE Marks : 60
Lecture Hours/Week: 02 Hours Tutorial (Instructions) + 02 Hours Laboratory		
RBT Level : L1, L2, L3	Exam Hours : 03	
CREDITS – 02		

Course Learning Objectives: This laboratory course enables students to

- Understand the circuit schematic and its working.
- Study the characteristics of different electronic devices.
- Design and test simple electronic circuits as per the specifications using discrete electronic components.
- Familiarize with EDA software which can be used for electronic circuit simulation.

PART A : Experiments using Discrete components

1. Conduct experiment to test diode clipping (single/double ended) and clamping circuits (positive/negative).
2. Half wave rectifier and Full wave rectifier with and without filter and measure the ripple factor.
3. Characteristics of Zener diode and design a Simple Zener voltage regulator determine line and load regulation.
4. Characteristics of LDR and Photo diode and turn on an LED using LDR
5. Static characteristics of SCR.
6. SCR Controlled HWR and FWR using RC triggering circuit
7. Conduct an experiment to measure temperature in terms of current/ voltage using a temperature sensor bridge.
8. Measurement of Resistance using Wheatstone and Kelvin's bridge.

PART-B : Simulation using EDA software

(EDWinXP, PSpice, MultiSim, Proteus, Circuit Lab or any equivalent tool)

1. Input and Output characteristics of BJT Common emitter configuration and evaluation of parameters.
2. Transfer and drain characteristics of a JFET and MOSFET.
3. UJT triggering circuit for Controlled Full wave Rectifier.
4. Design and simulation of Regulated power supply.

Course Outcomes: On the completion of this laboratory course, the students will be able to:

1. Recognize and demonstrate functioning of semiconductor power devices.
2. Evaluate the characteristics, switching, power conversion and control by semiconductor power devices.
3. Analyze the response and plot the characteristics of transducers such as LDR, Photo diode, etc.
4. Design and test simple electronic circuits for measurement of temperature and resistance.
5. Use circuit simulation software for the implementation and characterization of electronic circuits and devices.

Conduct of Practical Examination:

- All laboratory experiments are to be considered for practical examination.
- For examination one question from **PART-A** and one question from **PART-B** or only one question from **PART-A** experiments based on the complexity, to be set.
- Students are allowed to pick one experiment from the lot.
- Strictly follow the instructions as printed on the cover page of answer script for breakup of marks.
- Change of experiment is allowed only once and Marks allotted to the procedure part to be made zero.

Text Books

1. David A Bell, "Fundamentals of Electronic Devices and Circuits Lab Manual, 5th Edition, 2009, Oxford University Press.
2. Muhammed H Rashid, "Introduction to PSpice using OrCAD for circuits and electronics", 3rd Edition, Prentice Hall, 2003.

LABORATORY EXPERIMENTS

PART A : Experiments using Discrete components

Sl No	Title of the Experiment	Bloom's Taxonomy	Page no
	Fundamental Concepts	L1,L2	01
1..	Full wave rectifier with and without filter	L1,L2,L3,L4	08
2.	Clippers [positive and negative & double ended Clipping]	L1,L2,L3,L4	12
3.	Clampers [Positive and Negative]	L1,L2,L3,L4	16
4.	Voltage Regulator Using Zener Diode .	L2,L3,L4	20
5.	SCR Controlled HWR and FWR using RC triggering circuit	L2,L3,L4	23
6.	Characteristics Of Photo Diode	L1,L2,L3	30
7.	Wheatstone Bridge	L2,L3,L4	33
8.	Measurement Of Resistance Using Kelvin's Double Bridge	L2,L3,L4	35
9.	Silicon Controlled Rectifier (Thyristor) V-I Characteristics	L2,L3,L4	37
10.	Characteristics Of LDR To Turn On An LED Using LDR:	L2,L3,L4	41

PART-B

Simulation using EDA software (EDWinXP, PSpice, MultiSim, Proteus, CircuitLab or any equivalent tool)

1.	Input and Output characteristics of BJT Common emitter configuration and evaluation of parameters.	L1,L2,L4	46
2.	Transfer and drain characteristics of a JFET and MOSFET	L1,L2,L4	50
3.	UJT triggering circuit for Controlled Full wave Rectifier.	L1,L2,L4	54
4.	Design and simulation of Regulated power supply.	L1,L2,L4	56

FUNDAMENTAL CONCEPTS

BASIC DEFINITIONS:

Active element:

An active element is one which is capable of generating energy of its own.

Eg: Transistors, FET etc.

Passive element:

A passive element is one which is incapable of generating energy of its own. But it is capable of storing and dissipating energy.

Eg: Resistor, Capacitor, Inductor etc.

Waveform:

The path traced by a quantity, such as the voltage plotted as a function of some variable such as time, position, degrees, radiations, temperature, and so on.

Instantaneous value:

The magnitude of a waveform at any instant of time, denoted by lowercase letters (e1, e2)

Peak value:

The amplitude of a waveform of the extent of its voltage or current excursion from the zero reference.

Peak to peak value = 2 * peak value

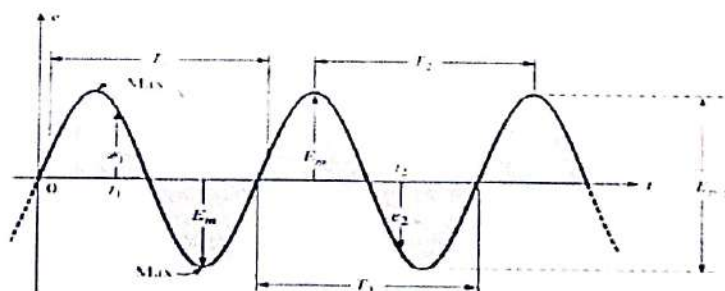
$$E_{p-p} = 2E_m$$

Periodic waveform:

A waveform that continually repeats itself after the same time interval. The Fig. shows a periodic waveform.

Period (T):

The time of a periodic waveform.



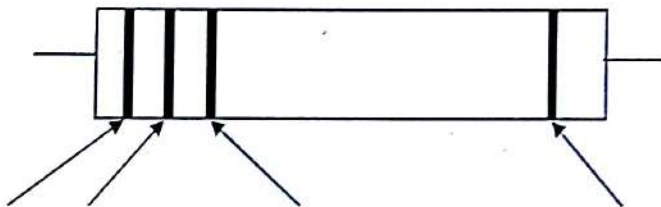
RESISTOR

A resistor is a passive circuit element which consumes energy.

SYMBOL**RESISTOR COLOR CODE**

Color coding is used for identifying the value of the given resistor. There are two different methods of color coding in use, namely

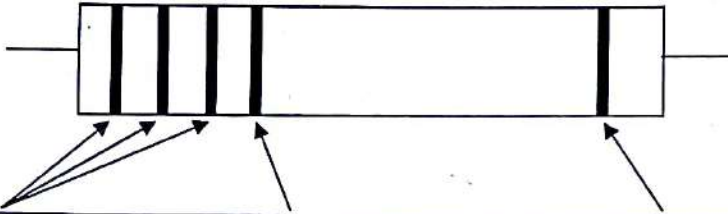
1. Four colored band
2. Five colored band

Four colored band

Color band		Color Multiplier		Color Tolerance	
Black	0	Silver	10^{-2}	Red	$\pm 2\%$
Brown	1	Gold	10^{-1}	Gold	$\pm 5\%$
Red	2	Black	$10^0 = 1$	Silver	$\pm 10\%$
Orange	3	Brown	$10^1 = 10$	No color	$\pm 20\%$
Yellow	4	Red	10^2		
Green	5	Orange	10^3		
Blue	6	Yellow	10^4		
Violet	7	Green	10^5		
Grey	8	Blue	10^6		
White	9				

Example

Brown ; Black ; Red ; Gold
 1 0 10^2 $\pm 5\%$
 Value is $1000 \pm 5\% \Omega$

FIVE COLORED BAND

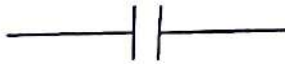
Color band		Color Multiplier		Color Tolerance	
Black	0	Silver	10^{-2}	Brown	$\pm 1\%$
Brown	1	Gold	10^{-1}	Red	$\pm 2\%$
Red	2	Black	$10^0 = 1$	Gold	$\pm 5\%$
Orange	3	Brown	$10^1 = 10$	Silver	$\pm 10\%$
Yellow	4	Red	10^2	No color	$\pm 20\%$
Green	5	Orange	10^3		
Blue	6	Yellow	10^4		
Violet	7	Green	10^5		
Grey	8	Blue	10^6		
White	9				

Example

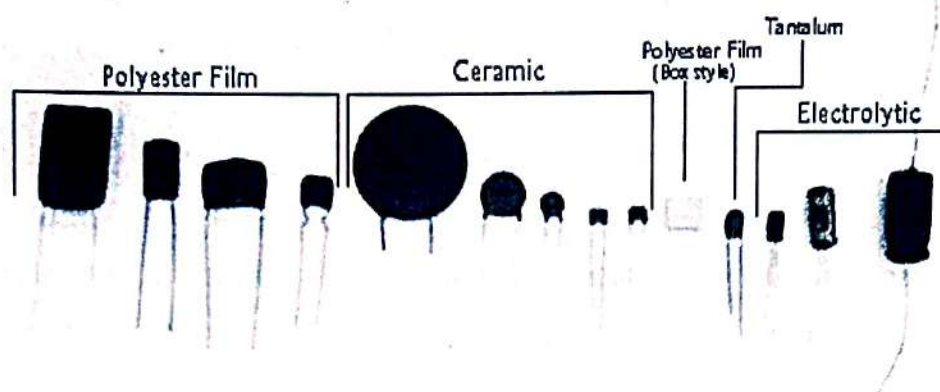
Red ; Yellow ; Black ; Black ; Red
 2 4 0 10^0 $\pm 5\%$
 Value is $240 \pm 5\% \Omega$

CAPACITOR

A capacitor is a circuit element which is capable of storing energy in the form of voltage during some period and returns during other time.

SYMBOL

TYPES OF CAPACITOR



CAPACITOR CONVERSION TABLE

CODE / Marking	μF microfarads	nF nanofarads	pF picofarads
1R0	0.000001	0.001	1
100	0.00001	0.01	10
101	0.0001	0.1	100
102	0.001	1	1,000
103	0.01	10	10,000
104	0.1	100	100,000
105	1	1,000	1,000,000
106	10	10,000	10,000,000
107	100	100,000	100,000,000

CAPACITOR TOLERANCE TABLE

C	+/- 0.25pF
D	+/- 0.5pF
F	1%
G	2%
J	5%
K	10%
M	20%
Z	+80 -20%

Examples:

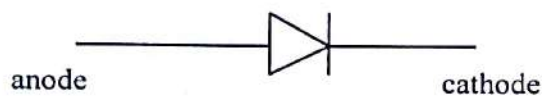
103K = $0.01\mu\text{F}$ i.e., 10nF with 10% Tolerance

104K = $0.1\mu\text{F}$ i.e., 100nF with 10% Tolerance

DIODE

In electronics, a **diode** is a two-terminal electronic component with asymmetric transfer characteristic, with low (ideally zero) resistance to current flow in one direction, and high (ideally infinite) resistance in the other.

SYMBOL

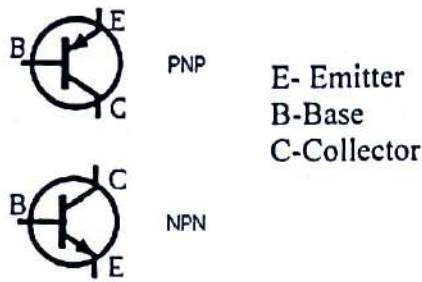
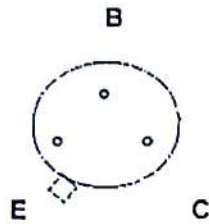


TESTING OF DIODE

1. Connect a multimeter (in resistance mode) across the diode
2. Observe the resistance of the diode in that position. If it shows lower resistance value, diode is in forward bias. Then the terminal connected to the positive terminal of the multimeter is anode (p-junction) and another terminal is cathode (n-junction).
3. Now reverse the multimeter position and observe the resistance value. If it shows high resistance then the given diode is good.

BIPOLAR JUNCTION TRANSISTOR (BJT)

A **bipolar junction transistor (BJT)** is a three-terminal electronic device constructed of doped semiconductor material and may be used in amplifying or switching applications. *Bipolar* transistors are so named because their operation involves both electrons and holes.

SYMBOL**PIN DIAGRAM****Bottom view of SL100 & BC107****TESTING OF BJT**

1. For a npn transistor connect the multimeter positive terminal to base terminal of the transistor and negative terminal to the emitter terminal of the transistor.
2. Follow the procedure given for diode. If it is successful then the given transistor base emitter junction is good.
3. Now shift the negative terminal of the multimeter to the collector terminal of the transistor by maintaining the positive terminal same.
4. Follow the same procedure given for the diode. If it is successful then the given transistors base collector junction is good.
5. Observe the collector to emitter resistance of the given transistor. It should be a high resistance in both directions.
6. Above said procedure can be executed for pnp transistor. Here multimeter positions should be interchanged. Remaining procedure remains the same.

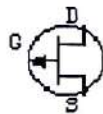
JUNCTION FIELD EFFECT TRANSISTOR (JFET)

The junction **field-effect transistor** (FET) is a transistor that uses an electric field to control the shape and hence the conductivity of a channel of one type of charge carrier in a semiconductor material. FETs are sometimes called *unipolar transistors* to contrast their single-carrier-type operation with the dual-carrier-type operation of bipolar junction transistors (BJT).

SYMBOL

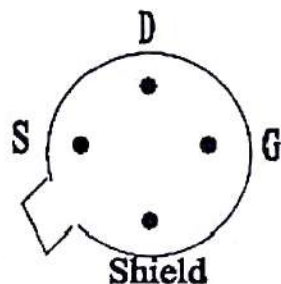


n-channel
JFET



p-channel
JFET

PIN DIAGRAM



Bottom view of BFW10

Exp No: 1

RECTIFIERS

Aim: To design and set up the following rectifiers with and without filters and to determine ripple factor and rectifier efficiency

- a) Half wave rectifier
- b) Full wave rectifier (Center Tapped)

Components required:

Components Name	Quantity
Diodes BY127 / IN4007	4
Transformer 9-0-9	1
Resistor (100 Ω -5w)	1
CRO	1
Function generator	1
Multimeter	1
Spring Board	1
Capacitor (220 μ F)	1

Theory:

A Rectifier is an electronic circuit that converts bi-polar quantity (might be voltage or current) in to a Uni-polar quantity. Rectifiers are used in the design of dc power supplies required for all electrical circuits to work. A semiconductor diode conducts only in one direction. This property is used in the design of rectifier circuit. Based on the output there are mainly two types of rectifiers namely half wave and full wave rectifiers. As the output voltage is in not in pure form, capacitor is used to filter it.

The main purpose of conducting this test is to understand the application of diode in half wave and full wave rectifier circuits and to understand how to get ripple free output using capacitor filter.

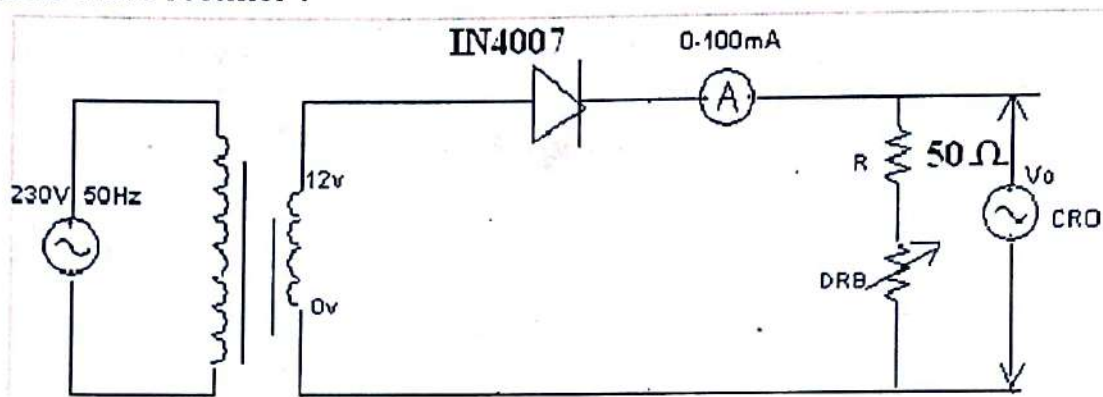
Half wave single phase rectifiers: - The Half wave rectifier is a circuit, which converts an ac voltage to dc voltage. In the Half wave rectifier circuit shown, the transformer serves two purposes.

1. It can be used to obtain the desired level of dc voltage (using step up or step down transformers).
2. It provides isolation from the power line.

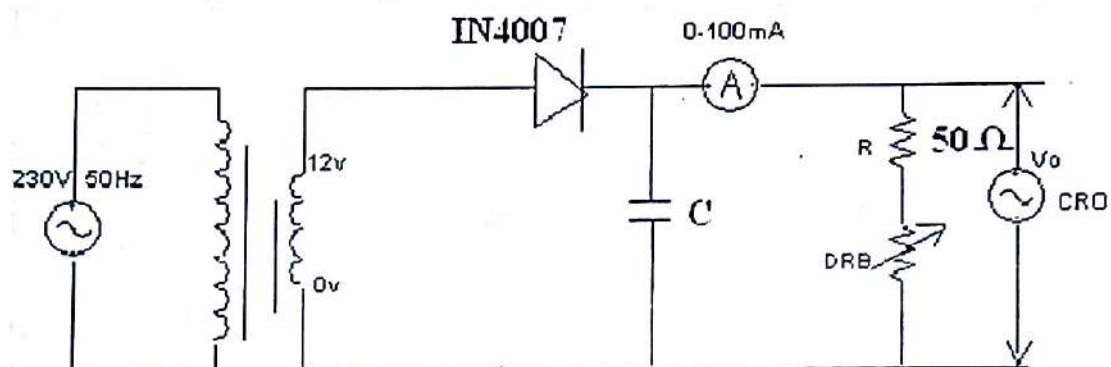
Full wave single phase rectifier:-Both cycles are rectified and ripple factor will be less and efficiency increases.. Based on the construction, there are mainly two types of full wave rectifiers

Center tapped full wave rectifier:The center tapped full wave rectifier circuit is similar to a half wave rectifier circuit, using two diodes and a center tapped transformer. Both the input half cycles are converted into unidirectional quantity.

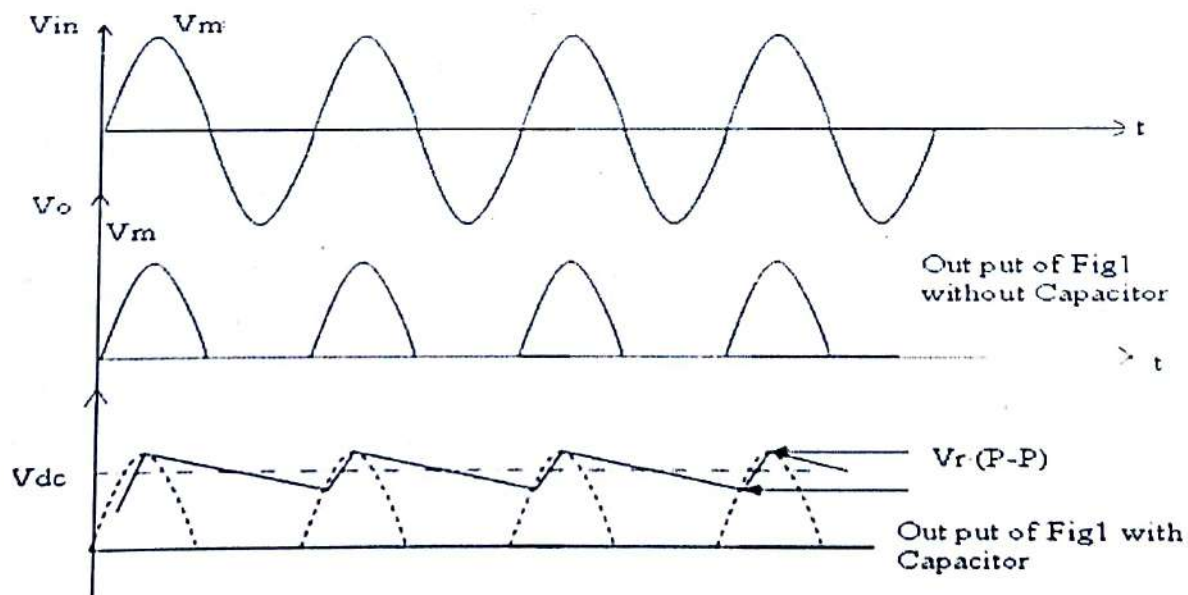
Circuit Diagram:
Half wave rectifier :



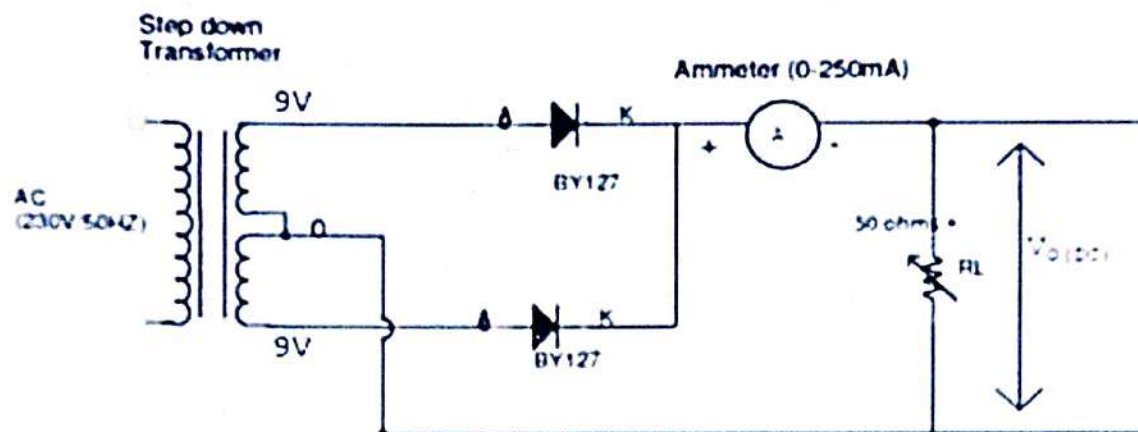
Half wave rectifier (with Filter) :



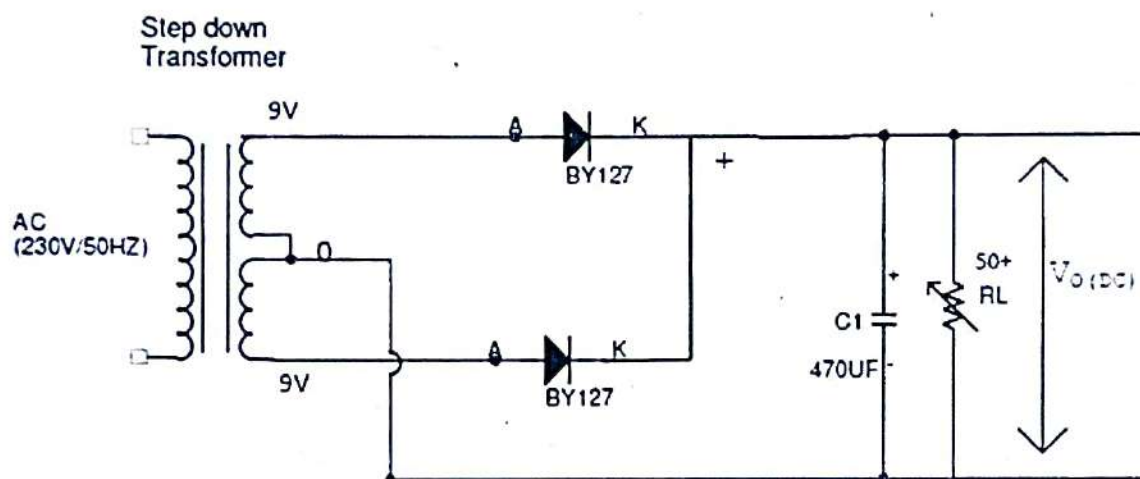
Wave Forms :



Full wave rectifier: Without filter:



With filter:



To design for an output voltage of 8V and load of 50mA

$$\text{Output voltage } V_{dc} = 8V = 2V_m/\pi$$

$$V_m = 8 * \pi / 2 = 12.56V$$

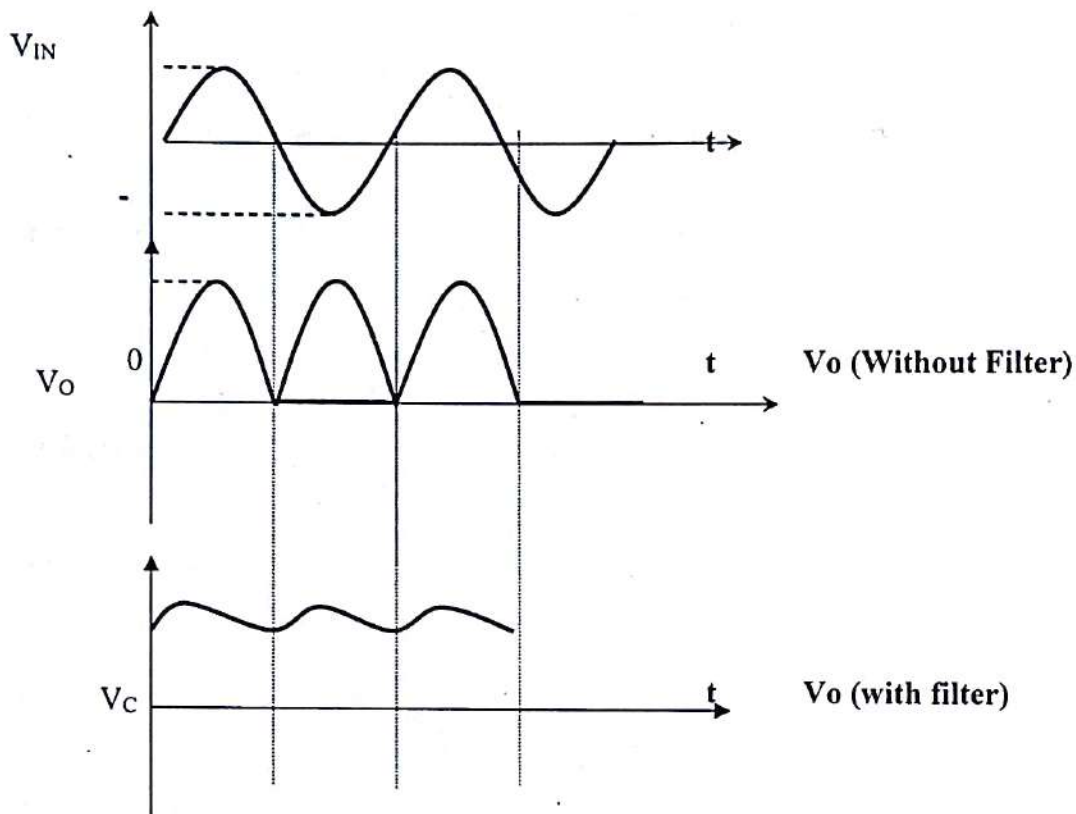
$$V_{rms} = 9V$$

Use transformer of 230V; 9-0-9V

$$R_L = V_{dc} / I_{dc} = 8V / 50mA = 160\Omega$$

$$P_{RL} = I_{dc}^2 R_L = 0.4W$$

Use $R_L = 100\Omega$, 5W

WAVEFORMS:**Tabular Column:****Without filter:**

Sl.No	$R_L(\text{ohm})$	$I_{dc}(\text{mA})$	$I_{ac}(\text{mA})$	$V_{dc}(\text{V})$	Ripple factor = I_{ac}/I_{dc}	% efficiency $= I_{ac}^2 / (I_{ac}^2 + I_{dc}^2) * 100$

With filter:

Sl.No	$V_m(\text{V})$	$V_{rpp}(\text{V})$	$V_{dc}(\text{V}) = V_m - V_{rpp}/2$	$V_{rms} = V_{rpp}/2\sqrt{3}$	$r = V_{rms}/V_{dc}$

PROCEDURE:

1. Connections are made as shown in the circuit diagram
2. Switch on the AC power supply
3. Observe the wave form on CRO across the load resistor and measure the output amplitude and frequency.
4. Note down R_L , I_{DC} , $V_{O(DC)}$, I_{ac} in the tabular column for different load resistances.
5. Calculate the ripple and efficiency for each load resistance.
6. Repeat the above procedure with filter capacitor.

Results:

Thus, the circuits for Half wave and full wave rectifiers were designed and tested for various performance parameters. Following were the observations made.

Parameters	Half Wave Rectifier		Full Wave Rectifier	
	Without Filter	With C Filter	Without Filter	With C Filter
Ripple Factor				
Efficiency η				

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU & Recognised by AICTE, New Delhi)

ACCREDITED BY NBA

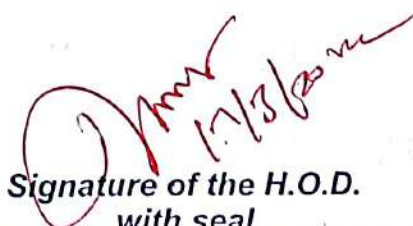
Laboratory Certificate



This is to certify that ~~Mr~~ / Miss... KAMYASHREE.T of III semester bearing U S N No... IMV20EC059 of the department of ECE has satisfactorily completed the course of experiments, prescribed by Visveshwaraiah Technological University for the BE course in the Electronic devices & Instrumentation Laboratory of this college in the year 2021.... - 2022..

Subject Code		
Particulars	Maximum Marks	Marks Obtd.
Record/Expt.	10	10
Test	30	30
Total I.A. in Figs.	40	40
In Words :	Forty	

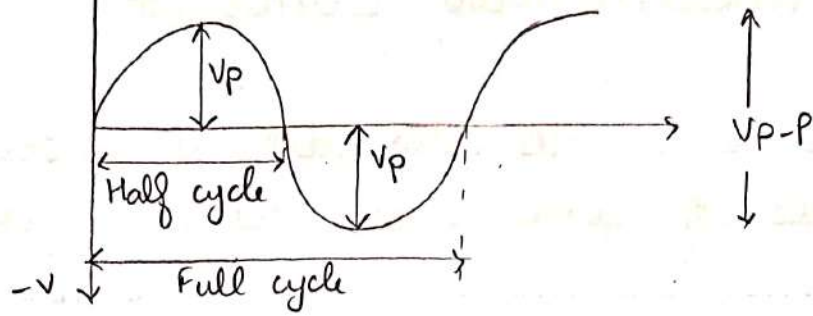

17.3.2022
Signature of the Staff in charge


17/3/2022
Signature of the H.O.D.
with seal
Head of the Department
Electronics & Communications Engineering
Sir M VI Bangalore 562 157

CONTENTS

Serial No.	Date	Title of the Experiment	Page No.	Marks
01	21/10/21	Fundamental Concepts	01 - 04	(10) $\frac{28}{112}$
02	28/10/21	Clippers	05 - 09	(10) $\frac{28}{112}$
03	25/11/21	Clampers	10 - 12	(10) $\frac{28}{112}$
04	02/12/21	Rectifiers	13 - 16	(10) $\frac{28}{112}$
05	16/12/21	Zener Diode	17 - 21	(10) $\frac{28}{112}$
06	23/12/21	Characteristics of LDR	22 - 23	(10) $\frac{28}{112}$
07	16/02/22	Characteristics of SCR	24 - 28	(10) $\frac{28}{2412}$
08	24/02/22	Input & Output characteristics of BJT CE configuration	29 - 31	(10) $\frac{28}{1713}$
09	3/3/22	Transfer and drain characteristics of a JFET and MOSFET	32 - 35	(10) $\frac{28}{1713}$
10	10/3/22	Wheatstone Bridge	36 - 38	(10) $\frac{28}{1713}$
11	10/3/22	Measurement of resistance using Kelvin's bridge	39 - 40	(10) $\frac{28}{1713}$
		Record + obs =	Ang =	10.
		Conduction =		20
		Write up =		05
		Viva =		05
				<u>40</u>

Waveform:



Resistor Symbol:



Resistor colour code:

Colour Band	Colour Multiplier	Color Tolerance
Black $\rightarrow 0$	Silver $\rightarrow 10^{-2}$	Brown $\pm 1\%$
Brown $\rightarrow 1$	Gold $\rightarrow 10^{-1}$	Red $\pm 2\%$
Red $\rightarrow 2$	Black $\rightarrow 10^0$	Gold $\pm 5\%$
Orange $\rightarrow 3$	Brown $\rightarrow 10^1$	Silver $\pm 10\%$
Yellow $\rightarrow 4$	Red $\rightarrow 10^2$	No colour $\pm 20\%$
Green $\rightarrow 5$	Orange $\rightarrow 10^3$	
Blue $\rightarrow 6$	Yellow $\rightarrow 10^4$	
Violet $\rightarrow 7$	Green $\rightarrow 10^5$	
Grey $\rightarrow 8$	Blue $\rightarrow 10^6$	
White $\rightarrow 9$		

Fundamental Concepts

Active elements: An active element is one which is capable of generating energy of its own.

Passive elements: A passive element is one which is incapable of generating energy of its own.
Eg: Resistor, Capacitor, Inductor etc.

Waveform: The path traced by a quantity such as the voltage plotted as a function of some variable such as time position degrees, radiations, temperature, etc.

Instantaneous value: The magnitude of a waveform at any instant of time denoted by lower case letters.

Peak value: The amplitude of a waveform at any instant of its voltage or current execution forms the zero reference.

Peak to Peak value = $2 \times$ peak value

$$E_{p-p} = 2E_m$$

$$\text{or } V_{p-p} = 2V_p$$

Example: 1) Red : Yellow : Black : Black : Red

Value is $240 \pm 2\% \Omega$

2) Blue : Grey : Red : Gold

Value is $6.8 K\Omega$

Capacitor conversion table:

Code	μF	nF	PF
1R	0.000001	0.001	1
100	0.00001	0.01	10
101	0.0001	0.1	100
102	0.001	1	1000
103	0.01	10	10000
104	0.1	100	100000
105	1	1000	1000000
106	10	10000	10000000
107	100	100000	100000000

Example:

(i) 103K = $0.01 \mu F$ i.e., 10nF with 10% Tolerance

(ii) 104K = $0.1 \mu F$ i.e., 100nF with 10% Tolerance

Periodic waveform: A waveform that continuously repeat itself after the time interval.

Resistors: A resistor is a passive circuit element which consumer energy. In electronic circuits, resistors are used to reduce current flow and adjust signal level etc.

Capacitor: A capacitor is a passive circuit element which is capable of storing charge in the form of voltage during some period and return during other time.

Diode: In electronics a diode is a two terminal electronic component with asymmetric transfer characteristic with low resistance to current flow in one direction and high resistance in the other.

Testing of Diode:

- (i) Connect a multimeter across the diode.
- (ii) Observe the resistance of the diode in that position. If it shows lower resistance value, diode is in forward bias. Then the terminal connected to the positive terminal of the multimeter is anode and other terminal is cathode.

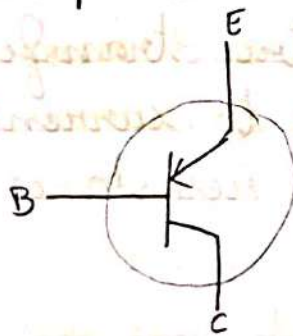
Capacitor Tolerance Table

C	$\pm 0.25\text{pF}$
D	$\pm 0.5\text{pF}$
F	1%
G	2%
J	5%
K	10%
M	20%
Z	$+80-20\%$

Diode symbol



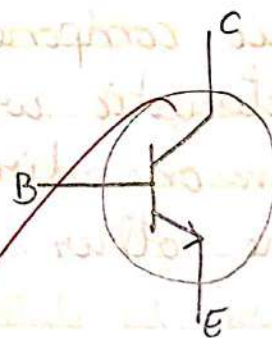
Bipolar Junction Transistor (BJT)



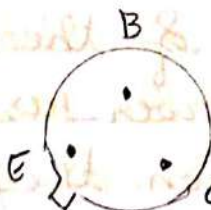
E = Emitter

B = Base

C = Collector



Pin diagram:



Bottom view of 2N100 and BC107

Now reverse the multimeter position and observe the resistance value. If it shows high resistance then the given diode is good.

Bipolar Junction transistor (BJT)

A BJT is a three terminal electronic device constructed of doped semiconductor material and maybe used in amplifying or switching application. BJT are so normal because their operation involves both electrons and holes.

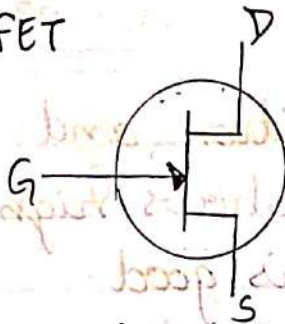
Junctions Field Effect Transistor.

The junction field effect transistor that uses a electric field to control the shape and hence the conductivity of a channel of one type of charge carrier in a semiconductor material.

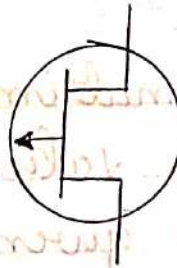
Procedure to determine the amplitude and time period of the signal.

- i) Turn on the oscilloscope, wait a couple of seconds to warm up, then the trace will show up on the screen.
- ii) Adjust the intensity and the focus of the trace.
- iii) Use the X and Y-post. Knobs to center the trace horizontally and vertically.
- iv) Turn ON the function generator.
- v) A signal will appear on the screen.

JFET

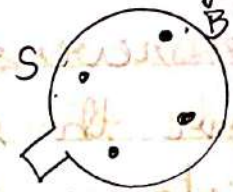


n-channel
JFET



P-channel
JFET

Pin diagram



Bottom view of
BFW10

Tabular Column

Types of signals	no. of vertical Division	Volts/div	Vpp = no. of vertical division volt/div	no. of horizontal Div	Time/div	T = no of horizontal Div * time/div	frequency $\approx 1/f$
Square	1	5V/div	1x5=5V	1	10 μ s	10 μ s	100kHz
Triangular	1	1V/div	1x1=1V	1	10 μ s	10 μ s	100kHz
Sine	1	20mV/div	1x20mV $\approx 20mV$	1	0.2 μ s	0.2 μ s	5kHz

- vii) Set the frequency of the generator to 100Hz and amplitude = 1V
- viii) Calculate the period T
 $T = \text{no. of horizontal Div} \times (\text{time/Div})$
- vi) Make sure that the inner red knobs of the volt/Div and Time/Div are locked clockwise.
- ix) Calculate the frequency, $f = \frac{1}{T}$

Result: Hence the result is verified.

d.B.
17/12/2022

Department of Electronics and Communication Engineering

Internship details

Academic Year: 2022-23

Sl. No.	Title of the collaborative activity	Name of the collaborating agency with contact details	Name of the participant	Year of collaboration	Duration	Nature of the activity	Link to the relevant document
1	Internship		ARYAN KUMAR DUBEY	2022	4 weeks	Artificial intelligence and machine learning	https://www.zaubacorp.com/
2	Internship		AYUSH AGRAWAL	2022	4 weeks	Artificial Intelligence & Machine Learning	https://www.zaubacorp.com/
3	Internship		SANDHYA H	2022	4 weeks	Insurance Prediction	https://www.zaubacorp.com/company/AQMENZ AUTOMATION-PRIVATE-LIMITED/U74999KA2018PTC117612
4	Internship		GUDIKAL SAI VAMSI	2022	4 weeks	Artificial Intelligence and Machine Learning	https://www.zaubacorp.com/company/AQMENZ AUTOMATION-PRIVATE-LIMITED/U74999KA2018PTC117612
5	Internship		PRATHIKSHA A	2022	4 weeks	Machine learning with Python	https://www.zaubacorp.com/company/AQMENZ AUTOMATION-PRIVATE-LIMITED/U74999KA2018PTC117612
6	Internship	Azure Skynet Solutions Pvt. Ltd.	POSHITHA K J	2022	4 weeks	Machine Learning	https://www.azurekynet.com/
7	Internship	Bariflo labs	BINDHUSHREE S	2022	4 weeks	Internet of things	https://bariflolabs.com/
8	Internship	BEL	RAHUL R	2022	4 weeks	Overview of CMS	https://www.india.gov.in/website-bharat-electronics-limited-bel
9	Internship		SACHIN KENCHANAGOWDAR	2022	4 weeks	Overview of Military Radar	https://www.india.gov.in/website-bharat-electronics-limited-bel

10	Internship		SYED ADNAN	2022	4 weeks	Overview of CMS	https://www.india.gov.in/website-bharat-electronics-limited-bel
11	Internship		VIVEK N RAJ	2022	4 weeks	Overview of Military Radar	https://www.india.gov.in/website-bharat-electronics-limited-bel
12	Internship		MANOJ P	2022	4 weeks	Overview of Military Radar	https://www.india.gov.in/website-bharat-electronics-limited-bel
13	Internship	BEML	V DEEPASHREE	2022	4 weeks	Manufacturing of earth moving equipments	https://www.bemlindia.in/
14	Internship	Bharat Electronics Ltd.	PUNIT K N	2022	4 weeks	Overview of Missile System	https://www.bel-india.in/
15	Internship	Compsoft Technologies	ANJALI KANTHALIYA	2022	4 weeks	Full Stack Web Development	
16	Internship		ANKITHA K K	2022	4 weeks	Full Stack Web Development	
17	Internship		AYUSH RAJ	2022	4 weeks	Full Stack Web Development	
18	Internship		B PUNIT KUMAR	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
19	Internship		D H GOWDA	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
20	Internship		D MANOJ KUMAR	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
21	Internship		GOVIND JEE	2022	4 weeks	Full Stack Web Development	https://www.comsoftit.com/
22	Internship		HARSH DUBEY		4 weeks	Full stack web developement	
23	Internship		JAISAN	2022	4 weeks	Full stack web development	https://www.comsoftit.com/
24	Internship		KANHA AGRAWAL	2022	4 weeks	Full stack web development	https://www.comsoftit.com/

25	Internship		N S PRATHVEESH	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
26	Internship		NIKHIL JEERIGANUR	2022	4 weeks	Full Stack Web development	https://www.comsoftit.com/
27	Internship		NIKITHA S REDDY	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
28	Internship		PALA SAITEJA	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
29	Internship		PANICKER CHAITRA	2022	4 weeks	Front-end Development - VASAVI MEDICALS WEBSITE	https://www.comsoftit.com/
30	Internship		RISHAV KUMAR SINGH	2022	4 weeks	Medical store website development	https://www.comsoftit.com/
31	Internship		RITIK KUMAR SINGH	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
32	Internship		ROHINI	2022	4 weeks	Machine learning with Python	https://www.comsoftit.com/
33	Internship		SHIWANGI SINGH	2022	4 weeks	Web development	https://www.comsoftit.com/
34	Internship		SRIJAY GANGULY	2022	4 weeks	Front-end Development - VASAVI MEDICALS WEBSITE	https://www.comsoftit.com/
35	Internship		SUDESH S GAONKAR	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
36	Internship		VIDYA S	2022	4 weeks	Machine learning with Python	https://www.comsoftit.com/

37	Internship		ADITYA SINGH	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
38	Internship		DHANANJAYA MITHTHANTHAYA	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
39	Internship		ADARSH C HEGDE	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
40	Internship		GANESH HEGDE	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
41	Internship		PUNYA P	2022	4 weeks	Machine Learning with Python	https://www.comsoftit.com/
42	Internship		PUSHPANJALI A V	2022	4 weeks	Machine learning with Python	https://www.comsoftit.com/
43	Internship		ABHISHEK S MASGAL	2022	4 weeks	Machine learning with python	https://www.comsoftit.com/
44	Internship	Contriver	KANDANOLU KOWSHIKA REDDY	2022	4 weeks	Programming and development (Web development & ML)	https://contriver.co.in/
45	Internship		K M UDHITH RAJU	2022	4 weeks	Programming and development (Web development & ML)	https://contriver.co.in/
46	Internship		RAVI VARMA K	2022	4 weeks	Programming and Development	https://contriver.co.in/

47	Internship		S K PUNEETH	2022	4 weeks	Programming and Development	https://contriver.co.in/
48	Internship	Flam	RISHABH VERMA	2022	4 weeks	Data Engineering Intern	https://flamapp.com/
49	Internship	HAL KOLKATA	DISHANT BANIK	2022	4 weeks	Communication system and radio instruments of cheetah and chetak helicopters	https://hal-india.co.in/Barrackpore%20Division/M 126
50	Internship	Harmonizer	SONAL JHA	2022	4 weeks	Method to detect, measure and analyse temperature and vibration of electronic motor using iot	https://harmonizersolutions.com/
51	Internship	IC Solution	RISHABH JAIN	2022	4 weeks	full stack web development	https://www.icsolutions.com/
52	Internship		AKSHAY MYAKERI	2022	4 weeks	Full Stack web development	https://www.icsolutions.com/
53	Internship		BHAVANA U	2022	4 weeks	Machine learning with python	https://www.icsolutions.com/
54	Internship		KARTIK KESHARWANI	2022	4 weeks	Full Stack Web development	https://www.icsolutions.com/
55	Internship		ASHOK KUMAR G	2022	4 weeks	Full Stack web development	https://www.icsolutions.com/
56	Internship		PRASHANT KUMAR	2022	4 weeks	full stack web development	https://www.icsolutions.com/
57	Internship		SHAIK AREEF	2022	4 weeks	Machine learning with Python	https://www.icsolutions.com/

58	Internship		SPOORTHY P K	2022	4 weeks	Machine learning with Python	https://www.icsolutions.com/
59	Internship		VINUTHA H	2022	4 weeks	Machine Learning with Python	https://www.icsolutions.com/
60	Internship	Indian Tech keys	DEVIKA A	2022	4 weeks	Embedded system designs and development	https://indiantechkeys.com/
61	Internship		DEVIKA S G	2022	4 weeks	Embedded system designs and development	https://indiantechkeys.com/
62	Internship		KAVANA T U	2022	4 weeks	Embedded system designs and development	https://indiantechkeys.com/
63	Internship	Innovation. Creation	ANUBHAV JHA	2022	4 weeks	Full Stack Web Development	
64	Internship		ARYAN DIXIT	2022	4 weeks	Full Stack Web Development	
65	Internship		BHASKAR JAISWAL	2022	4 weeks	Full stack web development	
66	Internship		DHEERAJ KUMAR	2022	4 weeks	Full Stack Web Development	
67	Internship		ISHU SINGH	2022	4 weeks	Full stack web development	
68	Internship		KACHARAGADLA DEEPTHI	2022	4 weeks	Machine learning with python	
69	Internship		LOKESH KUMAR	2022	4 weeks	Full Stack web development	
70	Internship	Maven Silicon	DISHA GANDHI	2022	4 weeks	AHB2APB bridge design using Verilog Hdl	

71	Internship	Orno Technologies	K S BHAVISHYA	2022	4 weeks	Long range RFID	https://www.zaubacorp.com/company/ORNO-TECHNOLOGIES-PRIVATE-LIMITED/U72900KA2022PTC167497
72	Internship		ISUKAPALLI SAI KRISHNACHAITHANYA	2022	4 weeks	Long Range RFID Detection	https://www.zaubacorp.com/company/ORNO-TECHNOLOGIES-PRIVATE-LIMITED/U72900KA2022PTC167497
73	Internship		HARINI SAMPATH	2022	4 weeks	Long Range RFID Detection	https://www.zaubacorp.com/company/ORNO-TECHNOLOGIES-PRIVATE-LIMITED/U72900KA2022PTC167497
74	Internship	PIE INFOCOMM Pvt. Ltd.	SUDARSH TANDON	2022	4 weeks	Full stack web development	https://www.pieinfocomm.in/
75	Internship	Pixaflip Technologies	AMAN SHANTI	2022	4 weeks	Web development Intern	
76	Internship		SUHANI	2022	4 weeks	web Development	https://pixaflip.com/
77	Internship	Prinston smart Engineers	PAPIREDDY SREEKANTH REDDY	2022	4 weeks	Loan Predication	https://prinstonsmart.com/
78	Internship	proTech digital	DIPANJAN SAMADDAR	2022	4 weeks	Web Development	
79	Internship	Sain Informatix	ARPIT KABRA	2022	4 weeks	Full stack Web Development	
80	Internship		RITIKA SUDHIR MISHRA	2022	4 weeks	crypto website	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
81	Internship		SHRADDHA V GOUDAR	2022	4 weeks	Full stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
82	Internship		SRICHARAN R IYENGAR	2022	4 weeks	Full stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
83	Internship		SHASHANK R KASHYAP	2022	4 weeks	Full Stack Web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
84	Internship		AMAN GUPTA	2022	4 weeks	Machine learning with Python	
85	Internship		HARSHITA SRIVASTAVA	2022	4 weeks	Full stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383

86	Internship		KALYAN KUMAR Y M	2022	4 weeks	Full Stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
87	Internship		N B VIDHYASHREE	2022	4 weeks	Full Stack Web Development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
88	Internship		VARSHINI NS	2022	4 weeks	Full stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
89	Internship		SUPRIYO SADHUKHA	2022	4 weeks	Full Stack web development	https://www.tofler.in/sain-informatix-private-limited/company/U72900KA2020PTC137383
90	Internship	Take It Smart (OPC) Pvt Ltd	KODATALA YASWANTH REDDY	2022	4 weeks	Machine Learning	https://www.insiderbiz.in/company/TAKE-IT-SMART-OPC-PRIVATE-LIMITED
91	Internship		KONDURU KAPIL RAJU	2022	4 weeks	Machine Learning Using Python	
92	Internship		GAGAN GOWDA K M	2022	4 weeks	Embedded systems and IOT	
93	Internship		KIRAN K N	2022	4 weeks	Embedded systems and IOT	
94	Internship		K JAYA SUPREETH REDDY	2022	4 weeks	Machine Learning Using Python	https://www.tofler.in/take-it-smart-opc-private-limited/company/U72900KA2021OPC150027
95	Internship		YERRAM CHETTY DWARAKESH	2022	4 weeks	Machine Learning	https://www.tofler.in/take-it-smart-opc-private-limited/company/U72900KA2021OPC150027
96	Internship		MANASA G B	2022	4 weeks	Embedded and Iot	
97	Internship		SADDAM HUSEN	2022	4 weeks	Embedded and Iot	
98	Internship		VIKAS M	2022	4 weeks	Embedded system and IOT	https://www.tofler.in/take-it-smart-opc-private-limited/company/U72900KA2021OPC150027
99	Internship	Take it Smart pvt ltd	SANTHOSHA K S	2022	4 weeks	Embedded system	https://www.tofler.in/take-it-smart-opc-private-limited/company/U72900KA2021OPC150027
100	Internship		VIKRAM S BHAT	2022	4 weeks	embedded + iot	https://www.tofler.in/take-it-smart-opc-private-limited/company/U72900KA2021OPC150027
101	Internship	Target Corp. Ltd.	KOMAL PRIYA	2022	4 weeks	Pickup elevator	

102	Internship		SHUBHRA DIXIT	2022	4 weeks	Clickstream Data Pipeline	https://corporate.target.com/
103	Internship	Tata Steel Pvt. Ltd.	DEBANJAL GUHA	2022	4 weeks	Web Development Using Python Django	https://www.tatasteel.com/
104	Internship	Varcons Technologies	HIMANSHU KUMAR GUPTA	2022	4 weeks	Full stack web development	
105	Internship		KISHAN KUMAR	2022	4 weeks	Full Stack Web Development	
106	Internship		KUSHAL SEHRAWAT	2022	4 weeks	Full stack web developement	
107	Internship		SHASHANK G NAIK	2022	4 weeks	Full Stack Web Development	https://www.varconstech.com/
108	Internship		VINAY K V	2022	4 weeks	Full Stack Web Development	https://www.varconstech.com/
109	Internship		ABDUL ALEEM	2022	4 weeks	Full Stack web development	https://www.varconstech.com/
110	Internship		AKASH AWASTHI	2022	4 weeks	Machine Learning with Python	https://www.varconstech.com/
111	Internship		ALOK KUMAR	2022	4 weeks	Full Stack web development	https://www.varconstech.com/
112	Internship		ARNAB CHAKRABORTY	2022	4 weeks	Full Stack Web Development	
113	Internship		CHUDESH VANNY V	2022	4 weeks	Full stack Web Development	https://www.varconstech.com/
114	Internship		MADHUSUDHAN GK	2022	4 weeks	Full Stack web development	https://www.varconstech.com/
115	Internship		DEEKSHITH S	2022	4 weeks	Full stack web development	
116	Internship		MADHVESH DIGGAVI	2022	4 weeks	Full stack web development	
117	Internship		BHUVANESHWARI	2022	4 weeks	Machine Learning with Python	

118	Internship		MADHUSUDHAN GK	2022	5 weeks	Full Stack Web development	
119	Internship		MUTHUKUMAR M	2022	4 weeks	Full Stack Web development	https://www.varconstech.com/
120	Internship		NIKITA SHRIKANT PAI	2022	4 weeks	Full Stack Web development	https://www.varconstech.com/
121	Internship		PRANAY RAJ	2022	4 weeks	Full Stack Web development	https://www.varconstech.com/
122	Internship		SANKET GUPTA	2022	4 weeks	Machine Learning with Python	https://www.varconstech.com/
123	Internship		SUPRIT KUMAR	2022	4 weeks	Full Stack web development	https://www.varconstech.com/
124	Internship		UJJWAL KUMAR	2022	4 weeks	Full Stack web development	https://www.varconstech.com/
125	Internship		MD ABDULLAH ANWAR	2022	4 weeks	Full Stack Web development	https://www.varconstech.com/
126	Internship		RAHUL KUMAR	2022	4 weeks	Full Stack Web Development	https://www.varconstech.com/
127	Internship		RAVINDRA D	2022	4 weeks	Machine Learning with Python	https://www.varconstech.com/
128	Internship	Vpro Tech Digital Pvt. Ltd.	PIYUSH PRABHAT	2022	4 weeks	Web development.	https://vprotechdigital.com/
129	Internship		SHUBHAM SRIVASTAVA	2022	4 weeks	Android Development	https://vprotechdigital.com/


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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Date: 06/07/2023

CIRCULAR

All the faculty members are hereby informed that the Mini-Project final review is scheduled on 07/07/2023(Friday).

Timings	Venue		
	Marconi Seminar Hall	NB211	NB316
9.00 am to 11.00 am	Dr.PC, RKN	Dr. RSG, Dr. GS	Dr. SM, RN
11.00am to 1.00 pm	PS, PN	SV,BN	Dr. SM,LHG
1.30 pm to 3.30 pm	PRP,RKN	Dr. RSG,SSK	Dr. VGS, Santoshini

Presentation contents:

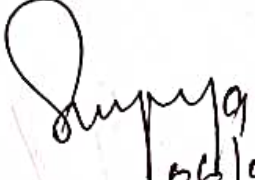
- Title of the mini project
- Introduction
- Literature Survey (at least 4 papers)
- Problem statement
- Objectives
- Methodology (Block diagram)
- Circuit diagram
- Hardware details
- Software details
- Results
- Merits/ Demerits
- Conclusion & Future scope

Note:

- Duration of the presentation and Demo is 30 min.
- Spiral binded copy of the report to be collected.

Mini-project coordinators

Ms. Seema S.
Ms. Swetha L.


06/07/23
HOD

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Mini Project (18ECMP68) Batch list

Academic Year 2022-23

Batch No.	Name	USN	Sem/Sec	TITLE OF THE MINI PROJECT	Guide
1	ANJAN KUMAR	1MV20EC015	VI A	WIFI NETWORK DEAUTHENTICATION BOT	Mrs. Poongothai C
	ANURAG NAIK	1MV20EC019	VI A		
	ARYAN SINGH	1MV20EC027	VI A		
	KARTIK NANDAGAON	1MV20EC060	VI A		
2	LAVANYA P	1MV20EC066	VI B	RFID BASED PETROL PUMP AUTOMATION	Mr. Phanindar Ravi P
	MALAKA BHASKAR REDDY	1MV20EC072	VI B		
	PAVAN TEJ P S	1MV20EC085	VI B		
	VARSHIKHA K V	1MV20EC123	VI B		
3	KRISHNA UPADHYAY	1MV20EC063	VI A	FOOD SPOILAGE DETECTION SYSTEM	Mrs. Poongothai C
	LAKSHMI S	1MV20EC065	VI B		
	MONIKA P	1MV20EC078	VI B		
4	ADARSH SINGH	1MV20EC006	VI A	REAL-TIME TRAFFIC ANALYSIS AND STREET LIGHT MANAGEMENT SYSTEM	Mr. R Nataraja
	ADITYA ANAND	1MV20EC007	VI A		
	AJITESH PRAKASH	1MV20EC010	VI A		
	DEV PRAKASH	1MV20EC041	VI A		
5	ANANYA SINGH	1MV20EC013	VI A	SMART PARKING SYSTEM BASED ON RFID TECHNOLOGY	Mrs. Swetha L
	HIMANSHU SHEKHAR	1MV20EC056	VI A		
	HITHA S	1MV20EC057	VI A		
	MANSI PRIYA	1MV20EC074	VI B		
6	AASTHA	1MV20EC001	VI A	HEART RATE DETECTOR	Mrs. Krishnapriya Sharma
	AMYA VERMA	1MV20EC012	VI A		
	ANISHA KUMARI	1MV20EC014	VI A		
	ARUSHI GUPTA	1MV20EC025	VI A		
7	PRIYANSHU HARSHA	1MV20EC090	VI B	3D HOLOGRAPHIC DISPLAY	Dr. Sasmita Mohapatra
	RISHABH SHARMA	1MV20EC096	VI B		
	SHRISTI RAJ	1MV20EC108	VI B		

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	UJJWAL KUMAR	1MV20EC120	VI B		
8	DIDDUKURI JOSHNA	1MV20EC044	VI A	CLONING BOT	Mrs. S Vijayalakshmi
	PADAPATI LIKHITH	1MV20EC068	VI B		
	MITAYI SAIGEETHIKA SINGH	1MV20EC076	VI B		
9	KISHOR K H	1MV20EC062	VI A	IOT BASED SALINE MONITORING SYSTEM	Mrs. Seema S
	MOHITH G S	1MV20EC077	VI B		
	MONISH M	1MV20EC080	VI B		
	NACHIKETH K V	1MV20EC081	VI B		
10	APARNA C	1MV20EC021	VI A	MILK ADULTERATION TESTING	Dr. R Sundaraguru
	HARSHITHA T A	1MV20EC054	VI A		
	SUDHEENDRA S KULKARNI	1MV20EC116	VI B		
11	DARSHAN BHANDARI	1MV20EC039	VI A	SECURED NODE DETECTION TECHNIQUE BASED ON ARTIFICIAL NEURAL NETWORK	Mrs. Krishnapriya Sharma
	DEEPTHI	1MV20EC040	VI A		
	HARSHA GANGOLLI	1MV20EC052	VI A		
12	ABHISHEK	1MV20EC003	VI A	REVOLUTIONIZING CITY STREETS: A COMPREHENSIVE APPROACH TO SMART INFRASTRUCTURE AND ACCIDENT PREVENTION	Dr. V G Supriya
	CHANDRASHEKHAR	1MV20EC036	VI A		
	DHANUSH B C	1MV20EC043	VI A		
	DILEEP	1MV20EC045	VI A		
13	ARYA KUMARI	1MV20EC026	VI A	IOT BASED FISH MONITORING SYSTEM FOR AQUA-CULTURE	Mrs. Santhoshini
	PRACHI SAWARN	1MV20EC088	VI B		
	ROHIT ANAND	1MV20EC100	VI B		
	V SUCHITRA	1MV20EC121	VI B		
14	VIKAS S BENAL	1MV20EC124	VI B	FIRE FIGHTING ROBOT	Mrs. Bhuvaneswari N
	NIRANJAN SRIDHAR	1MV20EC126	VI B		
	R SHANMUKHA SRINIVAS	1MV20EC127	VI B		
	VIJAY Y	1MV20EC128	VI B		


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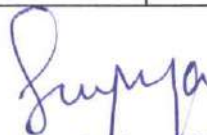
15	GALI SHASHIDHAR	1MV20EC049	VI A	SMART LIFEJACKET	Mrs. Swetha L
	GIRISHREDDY B	1MV20EC051	VI A		
	LIKITHA P	1MV20EC069	VI B		
	THASMEEN	1MV20EC118	VI B		
16	G PAVITHRAN	1MV20EC047	VI A	PCB DEFECT DETECTION USING IMAGE PROCESSING	Dr. V G Supriya
	GAGANA R	1MV20EC048	VI A		
	KAMYASHREE T	1MV20EC059	VI A		
	LAKSHITHA G	1MV20EC064	VI B		
17	B KAVYA	1MV20EC032	VI A	PERFORMANCE ANALYSIS OF SRAM CELLS FOR LOW POWER REDUCTION USING LOW POWER TECHNIQUES	Mrs. Sheethal Bagali
	BALASETTY SRAVANI	1MV20EC033	VI A		
	M B VARALAKSHMI	1MV20EC070	VI B		
	SRI LAKSHMI REDDY	1MV20EC113	VI B		
18	RAJSHREE SINGH	1MV20EC094	VI B	PASSWORD BASED DISTRIBUTION PANEL AND CIRCUIT BREAKER	Mrs. Sheethal Bagali
	REETHU KL	1MV20EC095	VI B		
	SHIVAM KUMAR	1MV20EC107	VI B		
	SUBRAMANIAM G	1MV20EC115	VI B		
19	ABHISHEK KUMAR	1MV20EC004	VI A	VEHICLE CONTROL BY HAND GESTURES	Mrs. Praveena N
	ADAN BARI	1MV20EC005	VI A		
	AKSHAT GUPTA	1MV20EC011	VI A		
	ANURAG SINGH	1MV20EC020	VI A		
20	ANUBHAB SARKAR	1MV20EC017	VI A	SMART MUSEUM GUIDE SYSTEM	Mrs. S Vijayalakshmi
	APOORV KUMAR	1MV20EC022	VI A		
	MIHIR KUMAR SHARMA	1MV20EC075	VI B		
	SIDDHARTHA KUMAR	1MV20EC112	VI B		
21	RAJRAJESWARI R	1MV20EC093	VI B	2 STAGE AMPLIFIER USING VLSI DESIGN	Mrs. Praveena N
	SHALINI K	1MV20EC103	VI B		
	SWETHA	1MV20EC111	VI B		
22	C A SRAVAN VARMA	1MV20EC037	VI A	ELECTRONIC VOTING MACHINE USING BIOMETRIC RECOGNITION	Mrs. P Shalini
	C M RAGHAVA RAKSHITH	1MV20EC038	VI A		
	DEVIKA	1MV20EC042	VI A		


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	NINGANAGOUDA	1MV20EC083	VI B		
23	AIZAZ AHMED	1MV20EC008	VI A	VEHICLE THEFT DETECTION	Mrs. Rajeshwari K N
	AJAY KUMAR N	1MV20EC009	VI A		
	ARANI GNANESH REDDY	1MV20EC023	VI A		
	AVINASH HIEMATH	1MV20EC029	VI A		
24	GEETHA PRIYA C.R.	1MV20EC050	VI A	IOT BASED SMART MIRROR	Mrs. P Shalini
	LAKSHMI B S	1MV21EC406	VI B		
	KEERTHANA A	1MV21EC405	VI A		
	MANOJ D P	1MV21EC407	VI B		
25	BACHCHANAKALLAPPA H	1MV20EC129	VI B	DETECTION OF ILLEGAL TREE CHOPPING	Mrs. Rajeshwari K N
	DODDAMANI MEHABOOB ALUM	1MV21EC402	VI A		
	GULAM GOUSE M	1MV21EC403	VI A		
	TEJASWINI K	1MV21EC409	VI B		
26	PRANAV RAJ	1MV20EC089	VI B	ANYTIME MEDICINE VENDING MACHINE	Mrs. Santhoshini
	RAGAVENDRA KUMAR	1MV20EC092	VI B		
	RITIK KUMAR DUBEY	1MV20EC098	VI B		
	THUSHAR YADAV	1MV20EC119	VI B		
27	AAYUSH SINHA	1MV20EC002	VI A	RFID TOKEN BASED APPOINTMENT CALLING SYSTEM	Mr. R Nataraja
	MANOBRATH DUTTA	1MV20EC073	VI B		
	RITESH KUMAR RAI	1MV20EC097	VI B		
	VAIBHAV KUMAR	1MV20EC122	VI B		
28	ANUPAM	1MV20EC018	VI A	VOICE RECOGNIZED ELEVATOR/LIFT CONTROL	Mrs. Lakshmi H G
	P VISHAL KAUSHIK	1MV20EC086	VI B		
	PRIYNASHU RAJ	1MV20EC091	VI B		
	SHANTANU KUMAR	1MV20EC104	VI B		
29	BHAVYA M	1MV21EC400	VI A	BIRDS REPELLING ROBOT	Mrs. Seema S
	SHASHIKALA B	1MV21EC408	VI B		
	VISHALA S S	1MV21EC410	VI B		


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30	ASHISH KUMAR	1MV20EC028	VI A	WIRELESS POWER TRANSMISSION USING IOT	Mrs. Lakshmi H G
	AYUSH KAUSHIK	1MV20EC030	VI A		
	AYUSH SINGH	1MV20EC031	VI A		
	BHASKAR KUMAR SINHA	1MV20EC034	VI A		
31	MONISH GOWDA N S	1MV20EC079	VI B	LAND MINE DETECTOR	Mrs. Bhuvaneswari N
	NAVEENT KRISHNA	1MV20EC082	VI B		
	ROHITH G	1MV20EC101	VI B		
	SHEIK TANZEEM	1MV20EC106	VI B		
32	ANKIT KUMAR	1MV20EC016	VI A	BABY MONITORING SYSTEM	Dr. Sasmita Mohapatra
	ARMAN ARYAN	1MV20EC024	VI A		
	HARSHIT	1MV20EC053	VI A		
	HIMANSHU SEKHAR DAS	1MV20EC055	VI A		
33	SATYAM	1MV20EC102	VI B	VOICE BASED NOTICE BOARD USING ANDROID	Mr. Phanindar Ravi P
	SHANTANU SINGH	1MV20EC105	VI B		
	SHWETA KUMARI	1MV20EC110	VI B		
	YOGESH KUMAR	1MV20EC125	VI B		
34	ENAM HABIBUR RAB	1MV20EC046	VI A	FALL DETECTION SYSTEM USING NODE MCU	Mr. G Shashibhushan
	JAGAN MOHANTY	1MV20EC058	VI A		
	KAUSHAL KISHORE	1MV20EC061	VI A		
	LIKHITH C K	1MV20EC067	VI B		
35	PIYUSH SINGH	1MV20EC087	VI B	GPS BASED INLAND VESSEL TRACKING SYSTEM	Dr. R Sundaraguru
	RITU RAJ SINGH RAJAWAT	1MV20EC099	VI B		
	SHUBHRADEEP DAS	1MV20EC109	VI B		
	SUSHANTH KUMAR	1MV20EC117	VI B		


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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA, BELAGAVI -590018



MINI-PROJECT REPORT
[18ECMP68]
on
“SMART LIFE JACKET”

Submitted in partial fulfillment of the requirements for the award of the degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

Submitted by

NAME

USN

1.GALI SHASHIDHAR
2.GIRISH REDDY B
3.LIKITHA P
4.THASMEEN D

1MV20EC049
1MV20EC051
1MV20EC069
1MV20EC118

Under the Guidance of
Ms. Swetha L
Assistant Professor



SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Bengaluru-562157

2022-23

SRI KRISHNADEVARAYA EDUCATIONAL TRUST
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562 157

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CERTIFICATE

Certified that the Mini-project work entitled "SMART LIFE JACKET" carried out by Gali Shashidhar (1MV20EC049), Girishreddy B (1MV20EC051), Likitha P (1MV20EC069), Thasmeen D (1MV20EC118), bonafide students of Sir M Visvesvaraya Institute of Technology in partial fulfillment for the award of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belgaum during the year 2022-23. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the said Degree.

Name & Signature of the guide

Ms. SWETHA L

Assistant Professor,

Dept of ECE

Name & Signature of the HOD

Dr. V.G SUPRIYA

Professor and Head,

Dept of ECE

PRINCIPAL

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
Krishnadevarayanagar, Hunasamaranahalli
International Airport Road, Bangalore-562 157
Prof. RAKESH S.G.

Principal

Head of the Department

Electronics & Communications Engineering

Sir M VIT Bangalore 562 157

External Viva

Name of the examiners

1. **Dr. R. Subrahmanya**

2. **Vandhana .M**

Signature with date

Rakesh S.G. 18/7/23

Vandhana .M 18/7/23



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
BENGALURU-562157
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

DATE: 02.05.2023

CIRCULAR

All the final year ECE students are hereby informed that the Project Work Phase-II final Review will be conducted as per the schedule given below.

Date & Venue	Timings	Project group No.
04/05/2023 (Thursday) Marconi Seminar Hall	9.00 a.m - 10.00 a.m	1 to 3
	10.00 a.m - 11.00 a.m	4 to 6
	11.00 a.m - 12.00 noon	7 to 9
	12.00 noon - 1.00 p.m	10 to 12
	1.30 p.m - 2.30 p.m	13 to 15
	2.30 p.m - 3.30 p.m	16 to 18
05/05/2023 (Friday) Marconi Seminar Hall	9.00 a.m - 10.00 a.m	19 to 21
	10.00 a.m - 11.00 a.m	22 to 24
	11.00 a.m - 12.00 p.m	25 to 27
	12.00 - 1.00 p.m	28 to 30
	1.30 p.m - 2.30 p.m	31 to 33
	2.30 p.m - 3.30 p.m	34 to 36

Presentation of 20 slides involving:

- Title of the project
- Objective of the project
- Problem statement
- Literature survey
- Methodology
- Hardware and software details
- Results
- References

Guidelines:

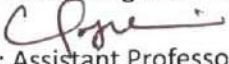
- Duration: 20 minutes per batch.
- Demonstration of the working model should be given.
- Soft copy of the Final report and PPTs to be verified by the guide before the review and get signature on the 1st page printout of the PPT.
- Dress code is mandatory.

Project Co-Ordinators: Ms. Praveena N/ Ms. Poongothai C

H.O.D.
Head of the Department
Electronics & Communications Engineering
Sir M VIT Bangalore 562 157

	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
	R/PP08/25	UG Project List ECE 2022-2023	

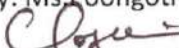
Sl. No	Usn	Project Group Members	Title Of The Project	Name Of The Guide
01	1MV19EC108	SONAL JHA	Autonomous Robot Feeding using Arduino	Dr R. Sundaraguru
	1MV19EC065	MALIK UL ASHTAR LALJI		
	1MV19EC010	AMAN KUMAR MANJHI		
	1MV19EC095	RITIKA SUDHIR MISHRA		
02	1MV19EC038	GANESH HEGDE	Targeted Fire Extinguisher System	Mrs Shalini P
	1MV19EC069	N S PRATHVEESH		
	1MV19EC089	RAVINDRA D		
	1MV19EC033	DHANANJAYA MITHTHANTHAYA		
03	1MV19EC111	SRIJAY GANGULY	Integrated Helmet Airbag System	Mrs Rajeshwari K N
	1MV19EC118	UJJWAL KUMAR		
	1MV19EC035	DIPANJAN SAMADDAR		
	1MV19EC078	PIYUSH PRABHAT		
04	1MV19EC003	ADARSH C HEGDE	Intelligent Animal Repelling System for crop protection	Mrs Rajeshwari K N
	1MV19EC007	AKSHAY MYAKERI		
	1MV19EC071	NIKHIL JEERIGANUR		
	1MV18EC095	SHASHANK R KASHYAP		
05	MV19EC102	SHAIK AREEF	Smart Energy Meter Using Narrow Band IoT	Mrs Poongothai C
	MV19EC105	SHRADDHA V GOUDAR		
	MV19EC120	VARSHINI NS		
	1MV19EC127	DWARAKESH YERRAMCHETTY		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:   Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head
---	--

Head of the Department
 Electronics & Communications Engineering
 Sir M. Visvesvaraya Institute of Technology

	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
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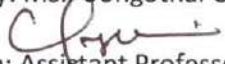
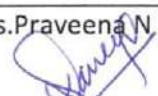
Sl. No	Usn	Project Group Members	Title Of The Project	Name Of The Guide
06	1MV19EC049	JAISAN	Ai Based Smart Security System	Dr R. Sundaraguru
	1MV19EC052	KALYANKUMAR YM		
	1MV19EC064	MADHUSUDHAN GK		
	1MV19EC067	M MUTHU KUMAR		
07	1MV19EC110	SRICHARAN R IYENGAR	Water Leakage Detection And Control System	Mrs Seema. S
	1MV19EC115	SUPRIT KUMAR		
	1MV19EC016	ARNAB CHAKRABORTY		
	1MV19EC086	RAHUL KUMAR		
08	1MV19EC025	BINDHUSHREE S	Smart Voting System	Mrs Krishna Priya Sharma
	1MV19EC079	POSHITHA K J		
	1MV19EC097	S K PUNEETH		
	1MV19EC109	SPOORTHY P K		
09	1MV19EC013	ANKITHA .K.K	Rescue and surveillance with smart robot	Dr Sasmitha Mogapatra
	1MV19EC042	HARINI SAMPATH		
	1MV19EC068	N B VIDHYASHREE		
	1MV19EC075	PANICKER CHAITRA		
10	1MV19EC008	ALOK KUMAR	IOT Enabled Data Acquisition System For Electric Vehicle	Mr G Shashibhushan
	1MV19EC012	ANJALI KANTHALIYA		
	1MV19EC057	KISHAN KUMAR		
	1MV19EC060	KOMAL PRIYA		

Prepared by: Ms.Poongothai C & Ms.Praveena Signature:  Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head
---	--

Head of the Department
 Electronics & Communications Engineering
 Sir M VIT Bangalore 562 157

	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
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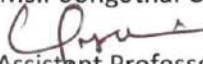
Sl. No	Usn	Project Group Members	Title Of The Project	Name Of The Guide
11	1MV19EC017	ARPIT KABRA	PCB defect verification using deep neural network	Dr Sasmitha Mohapatra
	1MV19EC027	D H GOWDA		
	1MV19EC094	RITIK KUMAR SINGH		
	1MV19EC116	SUPRIYO SADHUKHA		
12	1MV19EC072	NIKITA SHRIKANT PAI	Smart Sericulture system	Mrs Praveena N
	1MV19EC082	PRATHIKSHA A		
	1MV19EC119	V DEEPASHREE		
	1MV19EC124	VINUTHA H		
13	1MV19EC125	VIVEK N RAJ	Multipurpose forest security system	Mrs Seema. S
	1MV19EC098	SACHIN KENCHANAGOWDAR		
	1MV19EC117	SYED ADNAN		
	1MV19EC087	RAHUL R		
14	1MV19EC015	ARCHANA B R	Trio Power Generation	Dr R. Sundaraguru
	1MV19EC024	BHAVANA U		
	1MV19EC096	ROHINI		
	1MV19EC099	SANDHYA H		
15	1MV19EC073	NIKITHA S REDDY	Waste Management and energy conversion	Dr Supriya V G
	1MV19EC084	PUNYA P		
	1MV19EC085	PUSPANJALI A V		
	1MV19EC121	VIDYA S		

Prepared by: Ms. Poongothai C & Ms. Praveena N Signature:   Designation: Assistant Professors	Approved by: Dr. V.G. Supriya Signature:  Designation: Professor and Head
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Head of the Department
 Electronics & Communications Engineering
 Sir M. Visvesvaraya Institute of Technology, Bangalore 562 157

	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
	R/PP08/25		UG Project List ECE 2022-2023

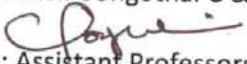
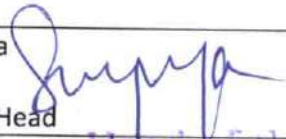
Sl. No	Usn	Project Group Members	Title Of The Project	Name Of The Guide
16	1MV19EC011	AMAN SHANTI	App based sustainable smart Irrigation system	Mrs.Swetha L
	1MV19EC114	SUHANI		
	1MV19EC019	ARYAN KUMAR DUBEY		
	1MV19EC083	PUNIT KN		
17	1MV19EC051	K .DEEPTHI	Charging station for E-vehicles using solar with IoT	Mrs Sheetal Bagali
	1MV19EC077	PAYYAVULA DEEPA		
	1MV17EC024	BHUVANESHWARI		
	1MV20EC406	MANASA G B		
18	1MV19EC002	ABHISHEK MASGAL	Early detection of Diabetic Retinopathy using ML	Mr Phanindar Ravi P
	1MV19EC022	B PUNIT KUMAR		
	1MV19EC028	D MANOJ KUMAR		
	1MV19EC113	SUDESH S GAONKAR		
19	1MV19EC055	KARTIK KESHARWANI	Fingerprint and GSM based Bank locker system with OTP verification	Mrs Vijaya Lakshmi S
	1MV19EC023	BHASKAR JAISWAL		
	1MV19EC063	LOKESH KUMAR		
	1MV19EC093	RISHAV KUMAR SINGH		
20	1MV19EC050	K S BHAVISHYA	Drone Detection and surveillance	Mrs Krishna Priya Sharma
	1MV19EC048	IS KRISHNACHAITHANYA		
	1MV19EC041	G SAI VAMSI		
	1MV19EC059	K YASHWANTH REDDY		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:  Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head
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Head of the Department
 Electronics & Communications Engineering
 Sir M VI Bangalore 562 157

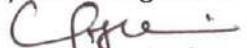
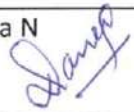
	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
	R/PP08/25		UG Project List ECE 2022-2023

Sl. No	Usn	Project Group Members	Title Of The Project	Name Of The Guide
21	1MV19EC009	AMAN GUPTA	Traffic signal system control for ambulance	Mrs Bhuvaneswari N
	1MV19EC020	AYUSH AGRAWAL		
	1MV19EC037	DISHANT BANIK		
	1MV19EC054	KANHA AGRAWAL		
22	1MV19EC053	K KOWSHIKA REDDY	Advanced automobilist reinforced system	Dr Supriya V G
	1MV19EC058	K M UDHITH RAJU		
	1MV19EC076	P SREEKANTH REDDY		
	1MV19EC088	RAVI VARMA K		
23	1MV20EC400	ASHOK KUMAR G	Smart nurse robot for covid19 patients	Mr Nataraja R
	1MV20EC402	GAGAN GOWDA K M		
	1MV20EC403	KIRAN K N		
	1MV20EC410	VIKAS M		
24	1MV19EC080	PRANAY RAJ	Welcome Robot	Mr Phanindar Ravi P
	1MV19EC029	DEBANJAL GUHA		
	1MV19EC062	KUSHAL SEHRAWAT		
	1MV19EC106	SHUBHAM SRIVASTAVA		
25	1MV19EC001	ABDUL ALEEM	Stroke disease prediction system	Mrs Praveena N
	1MV19EC026	CHUDESH VANNY V		
	1MV19EC103	SHASHANK G NAIK		
	1MV19EC123	VINAY K V		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:  Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head Head of the Department Electronics & Communications Engineering
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	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
	R/PP08/25		UG Project List ECE 2022-2023

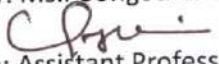
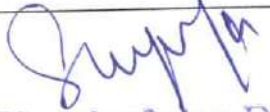
Sl. No	USN	Project Group Members	Title Of The Project	Name Of The Guide
26	1MV20EC404	MADHVESH DIGGAVI	Medical remote monitoring system for multiple physiological parameters	Dr Sasmitha Mogapatra
	1MV20EC405	MAHANTESH GA		
	1MV19EC066	MD ABDULLAH ANWAR		
	1MV19EC122	VIKRAM S BHAT		
27	1MV19EC031	DEVIKA A	Smart exam inspection system	Mr G Shashibhushan
	1MV19EC032	DEVIKA S G		
	1MV19EC056	KAVANA T U		
	1MV19EC101	SANTHOSHA K S		
28	1MV18EC003	ADARSH ABHAY	EVBMS with charge monitor and fire protection	Mrs Krishna Priya Sharma
	1MV18EC098	SHIVAM SINGH		
	1MV18EC102	SIDHARTHKUMAR PANDEY		
	1MV19EC030	DEEPESH KESWANI		
29	1MV19EC039	GOVIND JEE	Exam paper leakage protection system	Mrs Vijaya Lakshmi S
	1MV19EC046	HIMANSHU KUMAR GUPTA		
	1MV19EC074	PALA SAITEJA		
	1MV19EC126	Y JAYA SUPREETH REDDY		
30	1MV19EC061	KONDURU KAPIL RAJU	Smart poultry farm using GSM and IoT	Mrs Bhuvaneswari N
	1MV19EC107	SHUBHRA DIXIT		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:  Designation: Assistant Professors	 Approved by: Dr.V.G.Supriya Signature: Designation: Professor and Head
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Head of the Department
Electronics & Communications Engineering
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE - 560 015

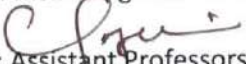
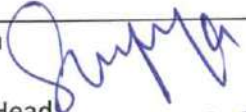
	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
	R/PP08/25	UG Project List ECE 2022-2023	

Sl. No	USN	Project Group Members	Title Of The Project	Name Of The Guide
31	1MV19EC006	AKASH AWASTHI	Solar powered Umbrella	Mrs Poongothai C
	1MV19EC021	AYUSH RAJ		
	1MV19EC092	RISHABH VERMA		
	1MV19EC100	SANKET GUPTA		
32	1MV19EC070	NANNAT GUPTA	Underwater wireless communication using IR sensor	Dr R. Sundaraguru
	1MV19EC081	PRASHANT KUMAR		
	1MV19EC090	RISHABH JAIN		
	1MV19EC112	SUDARSH TANDON		
33	1MV19EC014	ANUBHAV JHA	Smart Jacket for army	Mrs Shalini P
	1MV19EC034	DHEERAJ KUMAR		
	1MV19EC047	ISHU SINGH		
34	1MV19EC005	ADITYA SINGH	Smart currency segregation and counting system	Dr R. Sundaraguru
	1MV19EC036	DISHA GANDHI		
	1MV20EC401	DEEKSHIT		
	1MV19EC018	ARYAN DIXIT		
35	1MV19EC044	HARSH PANDYA	IoT based fish monitoring system for Aquaculture	Mrs Sheetal Bagali
	1MV19EC045	HARSHITA SRIVASTAVA		
	1MV19EC091	RISHABH SINGH		
	1MV19EC043	HARSH DUBEY		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:  Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head Head of the Department Electronics & Communications Engineering Sir M VIT Bangalore 562 157
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	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BANGALORE		RECORD FORMATS (ISO 9001:2008)
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Sl. No	USN	Project Group Members	Title Of The Project	Name Of The Guide
36	1MV20EC409	SURAJ KUMAR MONDAL	Counting people and facial recognition using deep learning	Mr Nataraja R
	1MV19EC104	SHIWANGI SINGH		
	1MV20EC407	MANOJ P		
	1MV20EC408	SADDAM HUSSAIN		

Prepared by: Ms.Poongothai C & Ms.Praveena N Signature:  Designation: Assistant Professors	Approved by: Dr.V.G.Supriya Signature:  Designation: Professor and Head
---	--

Head of the Department
 Electronics & Communications Engineering
 Sir M VIT Bangalore 562 157

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi - 590 018



PROJECT (18ECP83) REPORT ON

"FOREST NAVIGATION AND MONITORING SYSTEM"

Submitted in partial fulfillment of the requirements for the award of the Degree

BACHELOR OF ENGINEERING In ELECTRONICS AND COMMUNICATION ENGINEERING

Submitted by

SYED ADNAN

USN: 1MV19EC117

RAHUL R

USN: 1MV19EC087

VIVEK N RAJ

USN: 1MV19EC125

SACHIN KENCHANAGOWDAR

USN: 1MV19EC098

Under the Guidance of

**Ms. Seema S
Assistant Professor
Dept. of ECE**



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY**

Bengaluru -562157

2022-2023

4

SIR M.VISVESVARAYA INSTITUTE OF TECHNOLOGY
BENGALURU-562157

Department of Electronics and Communication Engineering



CERTIFICATE

This is to certify that the Project work (18ECP83) entitled "FOREST NAVIGATION AND MONITORING SYSTEM" is a bonafide work carried out by SYED ADNAN (1MV19EC117), RAHUL R (1MV19EC087), VIVEK N RAJ (1MV19EC125), SACHIN KENCHANAGOWDAR (1MV19EC098) of Sir M. Visvesvaraya Institute of Technology, B, in partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2022-2023. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report submitted to department library. The project phase-1 report has been approved as it satisfies the academic requirements in respect of project work prescribed for Bachelor of Engineering degree.

Seema 23/5/23
Ms. SEEMA S
Assistant Professor
Dept. of ECE

Supriya
Dr. V. G. Supriya
Professor & Head
Dept. of ECE

Head of the Department
Electronics & Communications Engineering
Sir M VIT Bangalore 562 157

Selva
PRINCIPAL
Prof. RAKESH S
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
Krishnadevaraya Nagar, Hunsamaranahalli
Internal Road, Bangalore-562 157
Sir M VIT

Name of the Examiners

1. Krishnapriya S Sharma
2. Ladnisgar H.S

Signature with Date

Rushant
23/05/2023
LS
23/05/23

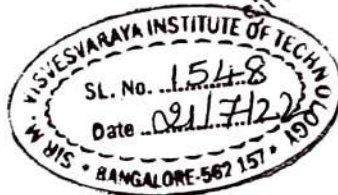
From,
Dr. Sasmita Mohapatra,
Associate Professor
Department of ECE,
Sir MVIT.

Date: 20-07-2022

Through,
The HOD,
Department of ECE, Sir MVIT.

To
The Principal,
Sir MVIT.

Respected Sir,



Revised Budget approved by
Re Rs. 36,000/- may
please be sanctioned

Sub: Seeking permission and financial assistance to conduct a 3 day inter college National Level Student Development Program - Reg.

With reference to the above subject, I would like to bring to your kind notice that Department of ECE under IEEE Student Branch want to conduct a 3-Day Student Development Program on "**PCB Design and Fabrication for Industrial Products**" on the dates 10th, 11th and 12th of August 2022. This program will be conducted for all the Students of circuit branches (open to ECE, TC and EEE). A total of 60 participants (45 internal candidates and 15 external candidates) both IEEE Student members and non-IEEE members from the above mentioned departments from different engineering colleges are expected to participate in the workshop. This will enable the students to design and develop their own PCB board and to perform product development. Participants will learn PCB design using DesignSpark PCB software. Each of the students will be supplied with all the equipments for designing and manufacturing of PCB with a unique circuitry.

A total expenditure of Rs.90,000/- (Ninety thousand only) is expected to incur during the workshop. A registration fee of Rs.300/- (rupees Three Hundred only) from all students is planned to be collected. **A complete self developed PCB with mounted components will be given out to all the participants so that the students will carry out mini projects post workshop.** A Sum of Rs. 18,000/- is expected to be collected via registrations. I humbly request your good self to permit me to conduct the workshop and financially support the event with a deficit amount in the expenses to a sum of Rs. 72,000/- (Seventy Two Thousand Only). The detailed budget is been enclosed for your kind reference. This is for your kind perusal and consideration.

Thanking you sir
Yours sincerely,

Sasmita Mohapatra
20.7.22
(Dr. Sasmita Mohapatra)

Recommended by RC

As per revised norms, 50% of
the requested amount (Rs 72,000/-),
i.e. (Rs 36,000/-) may
kindly be sanctioned. However,
the industry resource persons
may be called for negotiations.

21/7/2022

Head of Department
Department of ECE, Sir MVIT.

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

No. 16, Ballari Road, Sadashivanagar, Bengaluru – 560 080

Ref.No.KET/SMVIT/ 59 /2022 – 2023/453

Date: 17/08/2022

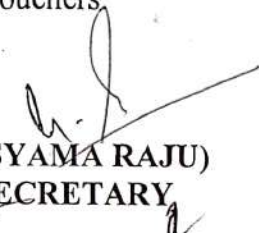
NOTE:

Sub: Financial assistance for conduct a 3 day Inter College National Level Student Development Program for Electronics students.

Ref: Letter from Dr. Sasmita Mohapatra, Associate Professor, Dept. of Electronics, dated 20/07/2022, signed by HOD and duly endorsed by the Principal No. 1548, dated 21/07/2022.

With reference to the above, this is to convey approval for organizing a 3-Day Student Development Programme (SDP) titled “PCB Design and Fabrication for Industrial Products” for of Electronics, Telecommunication and Electrical Engineering.

Rs. 36,000/- (Rupees Thirty Six Thousand only) is sanctioned to meet the expenditure. The amount may be drawn from the Principal's SB account and reimbursement claimed later with duly audited bills and vouchers.


(K. SYAMA RAJU)
SECRETARY

To
The Principal,
Sir MVIT,
Bengaluru.

Copy to:

1. The HOD, Dept. of Electronics, Sir MVIT, Bengaluru.
2. Dr. Sasmita Mohapatra, Associate Professor and Coordinator of the programme, Dept. of Electronics, Sir MVIT.
3. The Accounts Officer, Sri KET, Bengaluru.

By K

SRI KRISHNADEVARAYA EDUCATIONAL TRUST
No. 16, Ballari Road, Sadashivanagar, Bengaluru - 560 080

Ref.No.KET/SMVIT/ 59 /2022 - 2023/453

Date: 17/08/2022

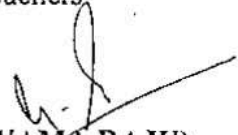
NOTE:

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(K. SYAMA RAJU)
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The Principal,
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Copy to:

1. The HOD, Dept. of Electronics, Sir MVIT, Bengaluru.
2. Dr. Sasmita Mohapatra, Associate Professor and Coordinator of the programme, Dept. of Electronics, Sir MVIT.
3. The Accounts Officer, Sri KET, Bengaluru.

By K

REGISTRATION FORM

3- Day National Level SDP on "PCB Design and Fabrication Using Innovative Methods For Industrial Products"

Name :

Department:

Institution :

.....

Mobile:

E-mail:

Signature of the
Applicant

Signature of HOD
with seal

CHIEF PATRONS

Dr. A.C Chandrashekar Raju	President, Sri KET
Sri K.V Sekhar Raju	Vice President, Sri KET
Sri K Syama Raju	Secretary, Sri KET
Sri M.Venkataramana Raju	Treasurer, Sri KET
Sri G Prabhakar Raju	Academic Chairman

ORGANISING CHAIR

Dr. V.R Manjunath
Principal

CONVENER

Dr. R. Sundaraguru
Professor & HOD ECE

CHIEF CO-ORDINATOR

Dr. Sasmita Mohapatra
Associate Professor

CO-ORDINATORS

Mr. R Nataraja	Associate Professor
Mrs. Seema S	Assistant Professor
Mr. Phanindar Ravi P	Assistant Professor
Mrs. Bhuvaneswari N	Assistant Professor
Mrs. Sheetal Bagali	Assistant Professor



3-Day National Level SDP on "PCB Design and Fabrication Using Innovative Methods For Industrial Products"



8th to 10th November 2022

Organized by Dept. of ECE, Sir MVIT
In Association with Indian Tech-Keys



SPONSORED BY

Sri Krishnadevaraya Educational Trust

**SIR M. VISVESVARAYA INSTITUTE OF
TECHNOLOGY**

(An ISO 9001:2008 Certified Institution)
International Airport Road, Krishnadevaraya Nagar,
Hunasamaranahalli, Bengaluru-562 157
Website: www.sirmvit.edu

ABOUT THE INSTITUTE

Sir M. Visvesvaraya Institute of Technology (Sir MVIT) is an Institute of repute in the state of Karnataka founded by Sri Krishnadevaraya Educational Trust (Sri KET) in 1986. The institute offers eleven B.E. degree programs in Civil, Mechanical, Electrical & Electronics, Electronics & Communication, Computer Science & Engg., Electronics & Telecommunication, Information Science, Bio Technology, AI & ML and IOT & Cyber Security and five Masters Programs. The Institute is affiliated to Visvesvaraya Technological University and approved by All India Council for Technical Education, New Delhi and is accredited by National Board of Accreditation, New Delhi. Sir MVIT is an ISO 9001:2008 Certified Institution. Sir MVIT is NAAC accredited. All the departments are approved as a recognized R & D centre by Visvesvaraya Technological University (VTU) to pursue Ph.D and M.Sc (Engg.) by Research.

ABOUT THE DEPARTMENT

The Department of ECE offers one UG Programme and one PG programme. The Department aims at transforming the students into young engineers with sound technical leadership skills, knowledge and decision making ability. Department encourages students to actively participate in co-curricular and extra curricular activities for their overall development. The Department has well qualified, experienced and dedicated faculty members who are providing excellent teaching & learning environment. The department has well equipped laboratory facilities and is recognized as R&D centre by VTU. Furthermore Texas Instruments sponsored innovative lab is established. Department excels in academics by securing university ranks in UG & PG Programs.

ABOUT THE PROGRAM

Student Development Program on “PCB Design and Fabrication using innovative methods for Industrial Products” is organized by department of Electronics and Communication Engineering. This is to create a platform for students to gain knowledge on current trends in industry. The session is designed to provide students with all the necessary tools to increase student learning and development. It will provide them with resources and activities to bridge the gaps in their learning i.e. bridging the gap between theory and concepts. Due to huge demand for Operations and Quantitative Skills in the market this workshop will develop the requisite skill level to be able to perform into the professional world.

OBJECTIVES

The objective of this program is to introduce printed circuit board designing and fabrication where participants will get exposure to DesignSpark PCB designing industrial tool (open source) and different aspects of printed circuit board designing. Prior to PCB designing, participants will rig up the circuit on breadboard for better understating of circuit functionality. Breadboard wiring will help to identify few complications in wiring which could be overcome using PCB.

COURSE CONTENTS

- Power of Design Spark PCB, Schematic Capture
- PCB Layout Design
- Fabrication of PCB boards
- Testing and trouble shooting
- Integration of Boards for Mini Project Implementation

COURSE OUTCOMES

- Concept to Product development skill.
- Exposure to Analog and Digital ICs.
- Schematics capture, PCB foot print design skill using DesignSpark (Open Source) software.
- Unit testing, Quality Check and Circuit debugging skill development.
- Clear understating of PCB fabrication process.
- Exposure to innovative product development.
- Apply techniques, skills and modern engineering tools necessary for engineering practice.

CERTIFICATE

A Certificate of participation will be issued on completion of the program

REGISTRATION DETAILS

REGISTRATION FEE:-

Rs : 400/-

MODE OF PAYMENT:

GOOGLE PAY to Sheetal B: +91-9986853709

FOR REGISTRATION CONTACT :

Mrs. Sheetal B

9986853709





Sir M. Visvesvaraya Institute of Technology

Bengaluru 562 157

Student Development Program
on

PCB Design and Fabrication Using Innovative Methods
For Industrial Products
8th to 10th November 2022

Registration form

Sl. No.	Name	USN	Department & Institute	Mode of Payment	Signature
1	KAMYASHREE T	1MV20EC059	ECE, Sir MVIT	Cash	Kamyashree
2	Gagana R	1MV20EC048	ECE, Sir MVIT	Cash	Gagana
3	PRIYANSHU SAHAY	1MV20ET021	ETE, Sir MVIT	GPay	Priyanshu
4	Sheik Tanzeem	1MV20EC106	ECE, Sir MVIT	GPay	Sheik Tanzeem
5	Rohith G	1MV20EC101	ECE, Sir MVIT	GPay	Rohith G
6	Abhishek	1MV20EC003	ECE, Sir MVIT	GPay	Abhishek
7	G PAVITHRAN	1MV20EC047	ECE, Sir MVIT	GPay	G Pavithran
8	RAGHAVA RAKSHITH	1MV20EC038	ECE, Sir MVIT	GPay	C.M. Raghava Rakshith
9	Rishabh Sharma	1MV20EC096	ECE, Sir MVIT	GPay	Rishabh
10	Sushant Kumar	1MV20EC117	ECE, Sir MVIT	GPay	Sushant
11	Nachiketh kv	1MV20EC081	ECE, Sir MVIT	GPay	Nachiketh kv
12	Monish.M	1MV20EC080	ECE, Sir MVIT	GPay	Monish.M
13	Lakshitha G	1MV20EC064	ECE, Sir MVIT	GPay	Lakshitha G
14	Lavanya P	1MV20EC066	ECE, Sir MVIT	GPay	Lavanya P
15	Priyanshu Harsha	1MV20EC090	ECE, Sir MVIT	GPay	Priyanshu Harsha
16	MIHIR KUMAR SHARMA	1MV20EC075	ECE, Sir MVIT	GPay	Mihir
17	Yash Raj	1MV21EC123	ECE, Sir MVIT	GPay	Yash Raj
18	Likitha.P	1MV20EC069	ECE, Sir MVIT	GPay	Likitha.P
19	Vikas vishwakarma	1MV21EC119	ECE, Sir MVIT	GPay	Vikas
20	Rituraj Singh	1MC20EC099	ECE, Sir MVIT	GPay	Rituraj Singh
21	Pavan tej P S	1mv20ec085	ECE, Sir MVIT	GPay	Pavan Tej P S
22	Tejaswini k	1MV 21EC409	ECE, Sir MVIT	GPay	Tejaswini k
23	BHASKAR MONDAL	1MV21EC024	ECE, Sir MVIT	GPay	Bhaskar Mondal
24	Varshikha KV	1MV20EC123	ECE, Sir MVIT	GPay	Varshikha KV
25	RITIK KUMAR DUBEY	1MV20EC098	ECE, Sir MVIT	GPay	Ritik Dubey
26	Niranjan Sridhar	1MV20EC126	ECE, Sir MVIT	GPay	Niranjan Sridhar
27	SIDDHARTHA KUMAR	1MV20EC112	ECE, Sir MVIT	GPay	Siddhartha Kumar
28	Pranav Raj	1MV20EC089	ECE, Sir MVIT	GPay	Pranav Raj
29	Shubhradeep Das	1MV20EC109	ECE, Sir MVIT	GPay	Shubhradeep Das
30	R SHANMUKHA SRINIVAS	1MV20EC127	ECE, Sir MVIT	GPay	R Shanmukha Srinivas
31	Mohith G S	1MV20EC077	ECE, Sir MVIT	GPay	Mohith G S
32	Vikas Benal	1MV20EC124	ECE, Sir MVIT	GPay	Vikas Benal
33	NITHIN KUMAR	1MV21EC059	ECE, Sir MVIT	GPay	Nithin Kumar
34	Muttu Naik	1MV21EC051	ECE, Sir MVIT	GPay	Muttu Naik
35	TUSHAR YADAV	1MV20EC119	ECE, Sir MVIT	GPay	Tushar Yadav
36	Suhas Kattimani	1MV21EC105	ECE, Sir MVIT	GPay	Suhas Kattimani
37	Sudheendra S Kulkarni	1MV20EC116	ECE, Sir MVIT	GPay	Sudheendra S Kulkarni



Sir M. Visvesvaraya Institute of Technology

Bengaluru 562 157

Sl. No.	Name	USN	Department & Institute	Mode of Payment	Signature
38	Subramaniam G	1MV20EC115	ECE, Sir MVIT	GPay	<i>[Signature]</i>
39	Danesh khyadi	1MV21EC028	ECE, Sir MVIT	GPay	<i>[Signature]</i>
40	Ujjwal Kumar	1MV20EC120	ECE, Sir MVIT	GPay	<i>[Signature]</i>
41	D Mehaboob Alum	1MV21EC402	ECE, Sir MVIT	GPay	<i>[Signature]</i>
42	Prachi sawarn	1MV20EC088	ECE, Sir MVIT	GPay	<i>[Signature]</i>
43	Girishreddy B	1mv20ec051	ECE, Sir MVIT	GPay	<i>[Signature]</i>
44	Krishna Upadhyay	1MV20EC063	ECE, Sir MVIT	GPay	<i>[Signature]</i>
45	Gulam gouse	1MV21EC403	ECE, Sir MVIT	GPay	<i>[Signature]</i>
46	N Nandish	1MV21EC052	ECE, Sir MVIT	GPay	<i>[Signature]</i>
47	Preetham P M	1MV21EC069	ECE, Sir MVIT	GPay	<i>[Signature]</i>
48	Sukriya THASMEEN. D	1MV20EC048	ECE, Sir MVIT	GPay	<i>[Signature]</i>
49	Bhaskar Reddy	1MV20EC072	ECE, Sir MVIT	GPay	<i>[Signature]</i>
50	Likhith	1MV20EC060	ECE, Sir MVIT	GPay	<i>[Signature]</i>
51	Anjana Madhavan B KAVYA	1MV20EC032	ECE, Sir MVIT	GPay	<i>[Signature]</i>
52	Kameshwar Singh		ECE, Sir MVIT	GPay	<i>[Signature]</i>
53	Vinith Shetty	1MV21EC121	ECE, Sir MVIT	GPay	<i>[Signature]</i>
54	Shrutik R Chandavari	1MV21EC094	ECE, Sir MVIT	GPay	<i>[Signature]</i>
55	Sravan Varma	1MV20EC037	ECE, Sir MVIT	GPay	<i>[Signature]</i>
56	Monish Gowda	1MV20EC039	ECE, Sir MVIT	GPay	<i>[Signature]</i>
57	Mithil	1MV21EC048	ECE, Sir MVIT	Cash	<i>[Signature]</i>
58	Rishi	1MV21EC002	ECE, Sir MVIT	GPay	<i>[Signature]</i>
59	Deepthi	1MV20EC040	ECE, Sir MVIT	Cash	<i>[Signature]</i>
60	Dileep G C	1MV20EC045	ECE, Sir MVIT	Cash	<i>[Signature]</i>
61	B KAVYA	1MV20EC032	ECE, Sir MVIT	GPay	<i>[Signature]</i>



Sir M. Visvesvaraya Institute of Technology

Bengaluru 562 157

Department of Electronics and Communication Engineering

Student Development Program

on

PCB Design and Fabrication Using Innovative Methods

For Industrial Products

8th to 10th November 2022

Feedback Form

USN: 1MV20EC063

Date: 10/11/2022

Name of the Participant: Krishna Upadhyay

1. The Workshop broadened the understanding of concepts and principles in the design of PCB.
a. Strongly agree ☒ b. Agree c. Neutral d. Disagree
2. The content was relevant and improved my skills and techniques related to PCB design.
a. Strongly agree ☒ b. Agree c. Neutral d. Disagree
3. The resource persons knowledge, presentation and explanation of the topic was good
a. Strongly agree ☒ b. Agree c. Neutral d. Disagree
4. The number of sessions for the topic was appropriate
☒ a. YES b. NO (if NO, how many more sessions required? _____)
5. The Hands-on sessions were well coordinated and long enough to complete the design
☒ a. YES b. NO
6. How do you rate the Hands-on experience during training?
a. Excellent ☒ b. Very good c. Good d. Fair e. Poor
7. The workshop was well organized and met the expectations
a. Strongly agree ☒ b. Agree c. Neutral d. Disagree
8. Overall, how would you rate the workshop and hospitality?
a. Excellent b. Very good ☒ c. Good d. Fair e. Poor
9. Would you like to attend similar workshops in future?
☒ a. YES b. NO
10. Any Suggestions/Comments?



Student Development Program
on
PCB Design and Fabrication Using Innovative Methods
For Industrial Products
8th to 10th November 2022

Feedback Form

USN: 1MV20EC04

Date: 10/11/2022

Name of the Participant: Lakshitha G

1. The Workshop broadened the understanding of concepts and principles in the design of PCB.
☒ a. Strongly agree b. Agree c. Neutral d. Disagree
2. The content was relevant and improved my skills and techniques related to PCB design.
☒ a. Strongly agree b. Agree c. Neutral d. Disagree
3. The resource person's knowledge, presentation and explanation of the topic was good.
☒ a. Strongly agree b. Agree c. Neutral d. Disagree
4. The number of sessions for the topic was appropriate.
☒ a. YES b. NO (If NO, how many more sessions required? _____)
5. The Hands-on sessions were well coordinated and long enough to complete the design.
☒ a. YES b. NO
6. How do you rate the Hands-on experience during training?
☒ a. Excellent b. Very good c. Good d. Fair e. Poor
7. The workshop was well organized and met the expectations.
a. Strongly agree ☒ b. Agree c. Neutral d. Disagree
8. Overall, how would you rate the workshop and hospitality?
☒ a. Excellent b. Very good c. Good d. Fair e. Poor
9. Would you like to attend similar workshops in future?
☒ a. YES b. NO
10. Any Suggestions/Comments?

Embedded, IOT, workshop is required.



Sri Krishnadevaraya Educational Trust's

Sir M. Visvesvaraya Institute of Technology

Krishnadevaraya nagar, Hunsuramahalalli, International Airport Road
Bangalore-562157

**Department of Electronics and Communication Engineering
PG and Research Center**

National level Student Development Program on
***"PCB Design and Fabrication Using Innovative Methods
for Industrial Products"***

in association with *Indian Tech-Keys*.

Report

The department of Electronics & Communication Engineering, conducted three days National level SDP on "*PCB Design and Fabrication Using Innovative Methods for Industrial Products*" on 8th -10th November 2022 in association with Indian Tech-Keys. This SDP was sponsored by Sir KET.

The Invitation for SDP was sent to all the 4th semester students of all engineering colleges. The response was very good. Total number of participants was limited to 60 in number. The registration started on 1st November 2022.

Inauguration started at 9.45 AM in Marconi Seminar Hall. Our beloved Principal, Prof. Rakesh S. G., our Department HOD, Dr. R. Sundaraguru, our honorable Trustee Sri. Prabhakar Raju, and all other department HOD's and staff members presided the inaugural function. Prof. Rakesh S. G., Principal, Sir MVIT gave the opening remarks for his first official program organized in the college. Dr. Sasmita Mahopatra, Associate professor, Dept. of ECE, welcomed the Resource person for the program Mr. Kotresh Mundurugi and the participants. Dr. R. Sundaraguru, HOD, Dept. of ECE gave his presidential remarks and highlighted the importance of demand for Operations and Quantitative Skills in the market. Inaugural function ended with vote of thanks.

On the first day, Power of Design Spark PCB and Schematic Capture were explained. Second day, PCB Layout Design and hands on Fabrication of PCB Boards were done by forming teams for different circuit designs. On Third day of

the program Testing and Troubleshooting of the designed PCB boards were done and Integration of Boards for Mini Project Implementation was detailed.

This SDP created a platform for students to gain knowledge on current trends in industry. The session was designed to provide students with all the necessary tools to increase student learning and development, bridging the gap between theory and concepts.

The feedback received from participants was very good towards SDP. All three sessions were very informative; also queries raised from the participants were clarified. The three days SDP was conducted successfully.

Chief Co-Ordinator

Dr. Sasmita Mohapatra, Associate Professor

Faculty Coordinators

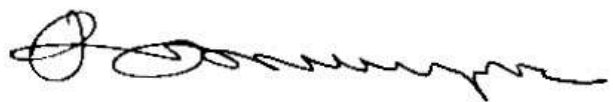
Mr. R Nataraja, Associate Professor

Mrs. Seema S, Assistant Professor

Mr. Phanindar Ravi P, Assistant Professor

Mrs. Bhuvaneswari N, Assistant Professor

Mrs. Sheetal Bagali, Assistant Professor



Dr. R Sundaraguru,
Professor & HOD, Department of ECE



Sri Krishnadevaraya Educational Trust's

Sir M. Visvesvaraya Institute of Technology

Krishnadevaraya nagar, Hunasamaranahalli, International Airport Road,
Bangalore-562157

**Department of Electronics and Communication Engineering
PG and Research Center**

National level Student Development Program on
***"PCB Design and Fabrication Using Innovative Methods
for Industrial Products"***

in association with ***Indian Tech-Keys.***





Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Bengaluru -562157



Department of Electronics and Communication Engineering
in association with



Indian Tech-Keys



CERTIFICATE

PRESENTED TO



YASH RAJ (1MV21EC123)

For successfully completing 3 Days National Level SDP on “**PCB Design and Fabrication Using Innovative Methods For Industrial Products**” Organized by the Department of Electronics and Communication Engineering from 08/11/2022 to 10/11/2022.

Mr. Kotresh Mundrugi
(Director) INDIAN TECH-KEYS

Dr. R. Sundaraguru
Professor & HOD, ECE

Prof. Rakesh S.G.
Principal



Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
VIVEK N RAJ
for successfully completing the course

Basic Calculus - 1

with a consolidated score of **75** %

Online Assignments	22.88/25	Proctored Exam	52.5/75
--------------------	----------	----------------	---------

Total number of candidates certified in this course: **40**

Prof. Devendra Jaliwal

Chairperson,

Centre for Outreach and Digital Education, IITM

Jan-Apr 2023

(12 week course)

Prof. Andrew Thangaraj

NPTEL, Coordinator

IIT Madras



Indian Institute of Technology Madras

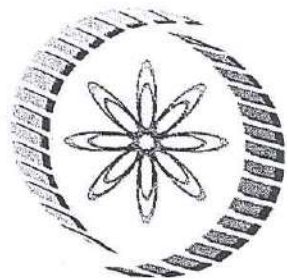


Roll No: NPTEL23MA13S53230805

To validate the certificate



No. of credits recommended: 3 or 4



Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to

SYED ADNAN

for successfully completing the course

Ethics in Engineering Practice

with a consolidated score of **82** %

Online Assignments	22.08/25	Proctored Exam	60/75
--------------------	----------	----------------	-------

Total number of candidates certified in this course: **3388**

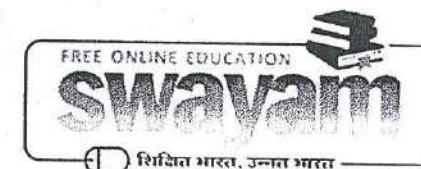
Feb-Apr 2023

(8 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur



Indian Institute of Technology Kharagpur





CERTIFICATE OF PARTICIPATION

This is hereby granted to

ALOK KUMAR

for their willingness to participate

in the event-"National Level Online C and C++ Quiz Contest". Held on 4th June , 2020. Organized by Department of Information Science and Engineering , Sri Venkateshwara College of Engineering, Bengaluru, in association with THE INSTITUTE OF ENGINEERS(India),New Delhi.

Dr. SHOBA M
HOD, DEPT.OF ISE, SVCE

Dr. SURESHA
PRINCIPAL, SVCE



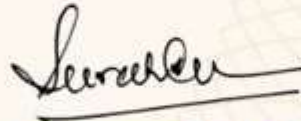
**Indian Society for Technical Education
Karnataka - Section**

CERTIFICATE

of participation

This is to certify that **Alok kumar**
of Sir M Vivesvaraya Institute Of Technology
has participated in "**DEBUG YOUR LOCK DOWN-HACK 2020**",
an online coding competition organized by
ISTE-KARNATAKA SECTION held from 7th May to 9th May 2020.

Organising Team
Dr. Sangamesh C B
&
Prof. Shashank Gowda
Members- SMC
ISTE- Karnataka Section
Mr. Chetan Balaji
Training and Placement officer
CIT-Gubbi


Dr Suresh D S
Chairman
ISTE - Karnataka section

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

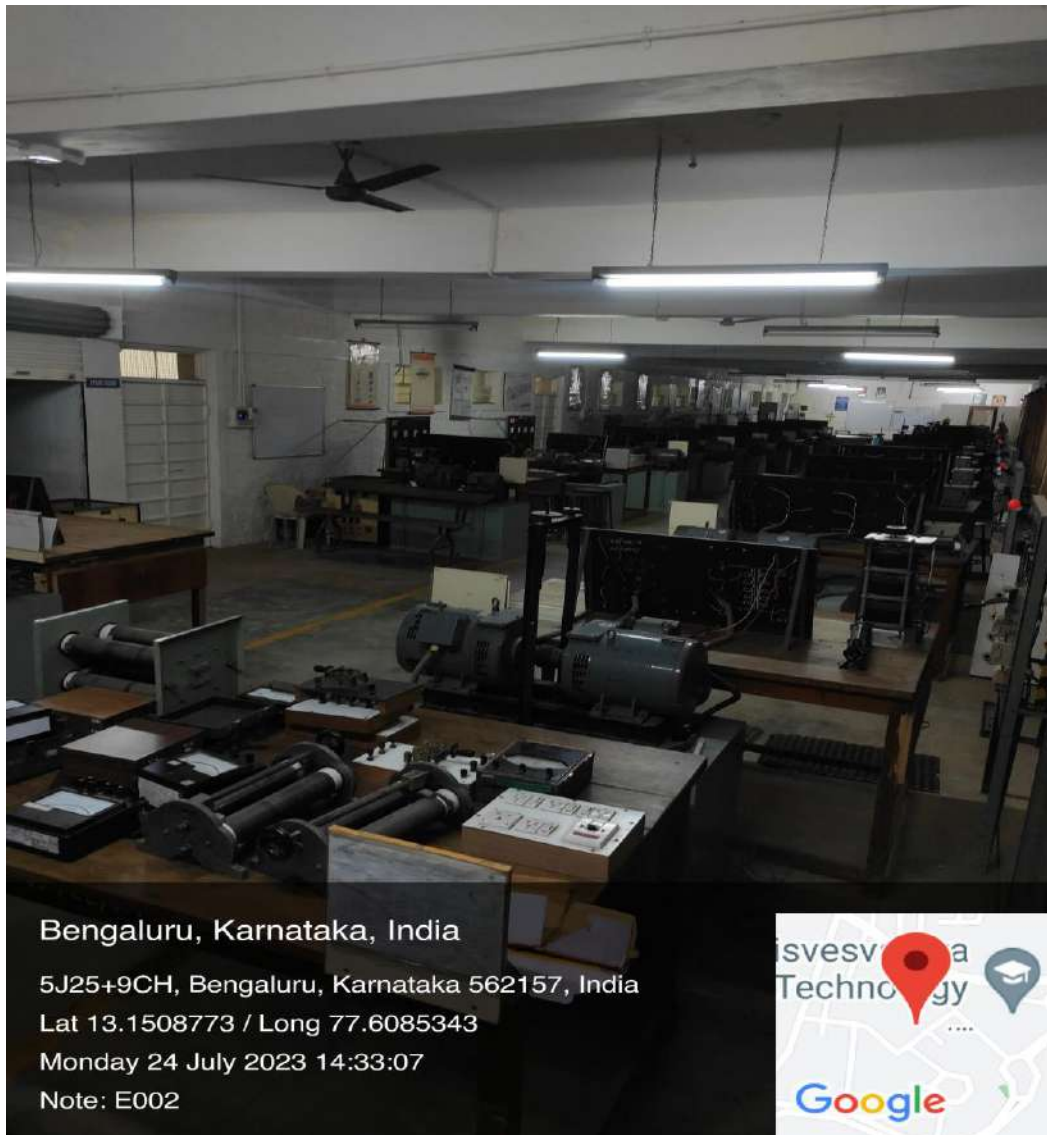


DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

2.3.1: STUDENT CENTRIC LEARNING METHODS

Laboratory Sessions

2.3.1.1 Electrical Machine laboratory



Electrical Machine laboratory

Manual

updated
now
5/11/22

LM/EE/SEM/03/02

ELECTRICAL MACHINES

LAB-1

(21EEL35 - For III Semester E & E)



Our Mission

DISCIPLINED AND INTEGRATED DEVELOPMENT OF PERSONALITY
THROUGH ACADEMIC EXCELLENCE, SPORTS AND CULTURAL ACTIVITIES

Lab Incharge

Mrs. NANDA. M. SHIVAMOGGI

Prepared by:

Mrs. Nanda. M. Shivamoggi

Mr. Bhaskar. c

Mrs. P. Kezia Joy Kumari

Department of Electrical and Electronics Engineering
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvarayah Technological University)

BANGALORE 562 157

For Internal Circulation Only

SIR MVIT

Vision of Institute

- To be a centre of excellence in technical and management education concurrently focusing on disciplined and integrated development of personality through quality education, sports, cultural and co-curricular activities.
- To promote transformation of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

Mission of Institute

- To impart quality technical education, provide state-of-art facilities, achieve high quality in teaching-learning & research and encourage extra & co-curricular activities.
- To stimulate in students a spirit of inquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives.
- To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbibing professional ethics and societal commitment.
- To create an ambiance and nurture conducive environment for dedicated and quality staff to upgrade their knowledge & skills and disseminate the same to students on a sustainable long term basis.
- To facilitate effective interaction with the industries, alumni and research institutions.

Vision of EEE Department

To be a pioneer in imparting quality technical education of high standards to produce skilled manpower with trained intelligence and emotional balance.

Mission of EEE Department

To nurture an integrated growth of talented youngsters and enrich their knowledge in modern branches of electrical sciences and develop them into competent technocrats and disciplined humans beneficial to global society.

PROGRAM OUTCOMES(POs)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Educational Objectives (PEOs)

1. Graduates of the program will have a successful career with sound base in domain specific engineering skills.
2. Graduates of the program will be capable of succeeding in diverse engineering fields providing innovative solutions with ethical and social responsibility.
3. Graduates of the program will continue to pursue professional development and engage in life-long learning.

ELECTRICAL MACHINES LABORATORY-1

SIR M.VISVESVARAYA INSTITUTE OF TECHNOLOGY
BANGALORE 562157

Department of Electrical and Electronics Engineering

ELECTRICAL MACHINES LABORATORY-1

EXPERIMENT LIST

1. Open Circuit and Short circuit tests on single phase step up or step down transformer and predetermination of (i) Efficiency and regulation (ii) Calculation of parameters of equivalent circuit.
2. Sumpner's test on similar transformers and determination of combined and individual transformer efficiency.
3. Parallel operation of two dissimilar single-phase transformers of different kVA and determination of load sharing and analytical verification given the Short circuit test data.
4. Polarity test and connection of 3 single-phase transformers in star – delta, delta – delta and V – V (open delta) and determination of efficiency and regulation under balanced resistive load.
5. Scott connection with balanced and unbalanced loads
6. Separation of hysteresis and eddy current losses in single phase transformer.
7. No load and load characteristics of DC shunt generator.
8. Voltage regulation of an alternator by EMF and MMF methods.
9. Voltage regulation of an alternator by ZPF method.
10. Slip test – Measurement of direct and quadrature axis reactance and predetermination of regulation of salient pole synchronous machines.
11. Performance of synchronous generator connected to infinite bus, under constant power and variable excitation & vice - versa.
12. Power angle curve of synchronous generator.

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

ELECTRICAL MACHINES LABORATORY-1

SIR M.VISVESVARAYA INSTITUTE OF TECHNOLOGY
BANGALORE 562157

Department of Electrical and Electronics Engineering

ELECTRICAL MACHINES LABORATORY-1

CYCLE I

1. Open Circuit and Short circuit tests on single phase step up or step down transformer and predetermination of (i) Efficiency and regulation (ii) Calculation of parameters of equivalent circuit.
2. Sumpner's test on similar transformers and determination of combined and individual transformer efficiency.
3. Scott connection with balanced and unbalanced loads.
4. Parallel operation of two dissimilar single-phase transformers of different kVA and determination of load sharing and analytical verification given the Short circuit test data.
5. Polarity test and connection of 3 single-phase transformers in star – delta, delta – delta and V – V (open delta) and determination of efficiency and regulation under balanced resistive load.
6. Separation of hysteresis and eddy current losses in single phase transformer.

CYCLE II

1. No load and load characteristics of DC shunt generator.
2. Voltage regulation of an alternator by EMF and MMF methods.
3. Voltage regulation of an alternator by ZPF method.
4. Slip test – Measurement of direct and quadrature axis reactance and predetermination of regulation of salient pole synchronous machines.
5. Performance of synchronous generator connected to infinite bus, under constant power and variable excitation & vice - versa.
6. Power angle curve of synchronous generator.



2. Power system simulation Laboratory



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POWER SYSTEM SIMULATION LABORATORY

CHOICE BASED CREDIT SYSTEM (CBCS) AND
OUTCOME BASED EDUCATION (OBE)
SCHEME 2018



[18EEL76], VII SEMESTER

Name:....., Branch:.....

USN: , Roll No:.....

Sem:....., Section:.....

Prepared & Compiled by

Dr. M S Suresh

Associate Professor

D Beula

Associate Professor

P Sumalatha

Assistant Professor

Department of Electrical & Electronics Engineering

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

POWER SYSTEM SIMULATION LABORATORY CHOICE BASED CREDIT SYSTEM (CBCS) AND OUTCOME BASED EDUCATION (OBE) SCHEME 2018

SUB.CODE:18EEL76

CIE: 40

No. of practical Hrs/Week: (L: T: P):0:2:2

SEE: 60

(2 Hour Instruction + 2 Hour Practical) Credits: 02

Exams Hrs: 03

RBT Level: L1, L2 and L3 [L₁-Remembering, L₂-Understanding, L₃-Applying]

Use of Standard Simulation Software Package

[MATLAB/C or C ++/Scilab/ Octave/Python software]

1. Formation for symmetric π /T configuration for Verification of AD-BC=I. Determination of Efficiency and Regulation.
2. Determination of Power Angle Diagrams, Reluctance Power, Excitation EMF and Regulation for Salient and Non-Salient Pole Synchronous Machines.
3. To obtain Swing Curve and to Determine Critical Clearing Time, Regulation, Inertia Constant/Line Parameters /Fault Location/Clearing Time/Pre-Fault Electrical Output for a Single Machine connected to Infinite Bus through a Pair of identical Transmission Lines Under 3-Phase Fault on One of the two Lines.
4. Y Bus Formation for Power Systems with and without Mutual Coupling by Singular Transformation and Inspection method.
5. Formation of Z-Bus (without coupling) using Z-Bus Building Algorithm.
6. Determination of Bus Currents, Bus Power and Line Flow for a Specified System Voltage
7. Formation of Jacobian for a System not Exceeding 4 Buses in Polar Coordinates.
8. Load Flow Analysis using Gauss Siedel Method, NR Method and Fast Decoupled Method for Both PQ and PV Buses.
9. To Determine Fault Currents and Voltages in a Single Transmission Line System with Star-Delta Transformers at a Specified Location for LG and LLG faults by simulation.
10. Optimal Generation Scheduling for Thermal plants by simulation.

Revised Bloom's Taxonomy Level

L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analyzing,
L5 – Evaluating, L6 – Creating.

*I LISTEN, I FORGET
I SEE, I REMEMBER
I DO, I UNDERSTAND*

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

SUB.CODE:1SEEL76

SEM: VII

CYCLE-I Using MAT Lab

1. Formation for symmetric π /T configuration for Verification of AD-BC = I. determination of Efficiency and Regulation.
2. Determinations of Power Angle Diagrams, Reluctance Power, Excitation Emf and Regulation for Salient and Non-Salient Pole Synchronous Machines.
3. To obtain Swing Curve and to Determine Critical Clearing Time, Regulation, Inertia Constant/Line Parameters /Fault Location/Clearing Time/Pre-Fault Electrical Output for a Single Machine connected to Infinite Bus through a Pair of identical Transmission Lines Under 3-Phase Fault on one of the two Lines.

CYCLE-II Using MAT Lab

4. Y Bus Formations for Power Systems by
(i) Singular Transformation method with and without Mutual Coupling and
(ii) Inspection Method without Mutual Coupling.
5. Determinations of Bus Currents, Bus Power and Line Flow for a Specified System Voltage (Bus) Profile.
6. Formation of Z Bus (without mutual coupling) using Z-Bus Building Algorithm.
7. Formation of Jacobian for a System not Exceeding 4 Buses (No PV Buses) in Polar Coordinates.

CYCLE-III USING MI-POWER SOFTWARE PACKAGE

8. Load Flow Analysis using Gauss Siedel Method, NR Method and Fast Decoupled Method for Both P-Q and P-V Buses.
9. To Determine Fault Currents and Voltages in a Single Transmission Line System with Star-Delta Transformers at a Specified Location for LG and LLG faults by simulation.
10. Optimal Generation Scheduling for Thermal power plants by simulation.



3. Relay and High voltage Laboratory



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Krishnadevaraya Nagar, Hunasamaranahalli, Off International Air Port Road
Bangalore – 562 157



Department of Electrical and Electronics Engineering
RELAY & HIGH VOLTAGE ENGINEERING LAB
MANUAL – Version 1.2

(18EEL77- VI I SEM EEE)

Author: Dr. C V MOHAN
Assoc. Professor

Name of the Student:	-----
Semester:	_____
Subject:	_____

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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

B. E. ELECTRICAL AND ELECTRONICS ENGINEERING Choice Based Credit System (CBCS) and Outcome Based Education (OBE) SEMESTER – VII			
RELAY AND HIGH VOLTAGE LABORATORY			
Course Code	18EEEL77	CIE Marks	40
Number of Practical Hours/Week	0:2:2	SEE Marks	60
Credits	02	Exam Hours	03
Course Learning Objectives:			
- To conduct experiments to verify the characteristics of over current, over voltage, under voltage relays both electromagnetic and static type. - To verify the operation of negative sequence relay. - To conduct experiments to verify the characteristics of microprocessor based over current, over voltage, under voltage relays and distance relay. - To conduct experiments on generator, motor and feeder protection. - To conduct experiments to study the spark over characteristics for both uniform and non-uniform configurations using High AC and DC voltages. - To measure high AC and DC voltages - To experimentally measure the breakdown strength of transformer oil. - To experimentally measure the capacitance of different electrode configuration models using Electrolytic Tank. To generate standard lightning impulse voltage and determine efficiency, energy of impulse generator and 50% probability flashover voltage for air insulation. ■			
Sl. NO	Experiments		
Total of Six experiments are to be conducted by selecting Two experiments from each Part – A, Part – B and Part – C. Five out of six experiments are to be conducted under Part – D.			
1	Part - A	Over Current Relay: (a)Inverse Definite Minimum Time(IDMT)Non-Directional Characteristics (b) Directional Features (c) IDMT Directional.	
2		IDMT Characteristics of Over Voltage or Under Voltage Relay (Solid State or Electromechanical type).	
3		Operation of Negative Sequence Relay.	
4	Part - B	Operating Characteristics of Microprocessor Based (Numeric) Over –Current Relay.	
5		Operating Characteristics of Microprocessor Based (Numeric) Distance Relay.	
6		Operating Characteristics of Microprocessor Based (Numeric) Over/Under Voltage	
7	Part - C	Generation Protection: Merz Price Scheme.	
8		Feeder Protection against Faults.	
9		Motor Protection against Faults.	
10	Part - D	Spark Over Characteristics of Air subjected to High Voltage AC with Spark Voltage Corrected to Standard Temperature and Pressure for Uniform [as per IS1876: 2005]and Non-uniform [as per IS2071(Part 1) : 1993] Configurations: Sphere – Sphere, Point – Plane.	
11		Spark Over Characteristics of Air subjected to High voltage DC.	
12		Measurement of HVAC and HVDC using Standard Spheres as per IS 1876 :2005	
13		Measurement of Breakdown Strength of Transformer Oil as per IS 1876 :2005	
14		Field Mapping using Electrolytic Tank for any one of the following Models: Cable Capacitor/	
15		(a) Generation of standard lightning impulse voltage and to determine efficiency and energy of impulse generator. (b) To determine 50% probability flashover voltage for air insulation subjected to impulse voltage.	

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Department of Electrical and Electronics Engineering

(Affiliated to Visvesvaraya Technological University)

Bangalore – 562 157

SUBJECT NAME: RELAY & HIGH VOLTAGE ENGINEERING LAB

SUBJECT CODE: 18EEL77

COURSE OUTCOMES

At the end of the course the student will be able to:

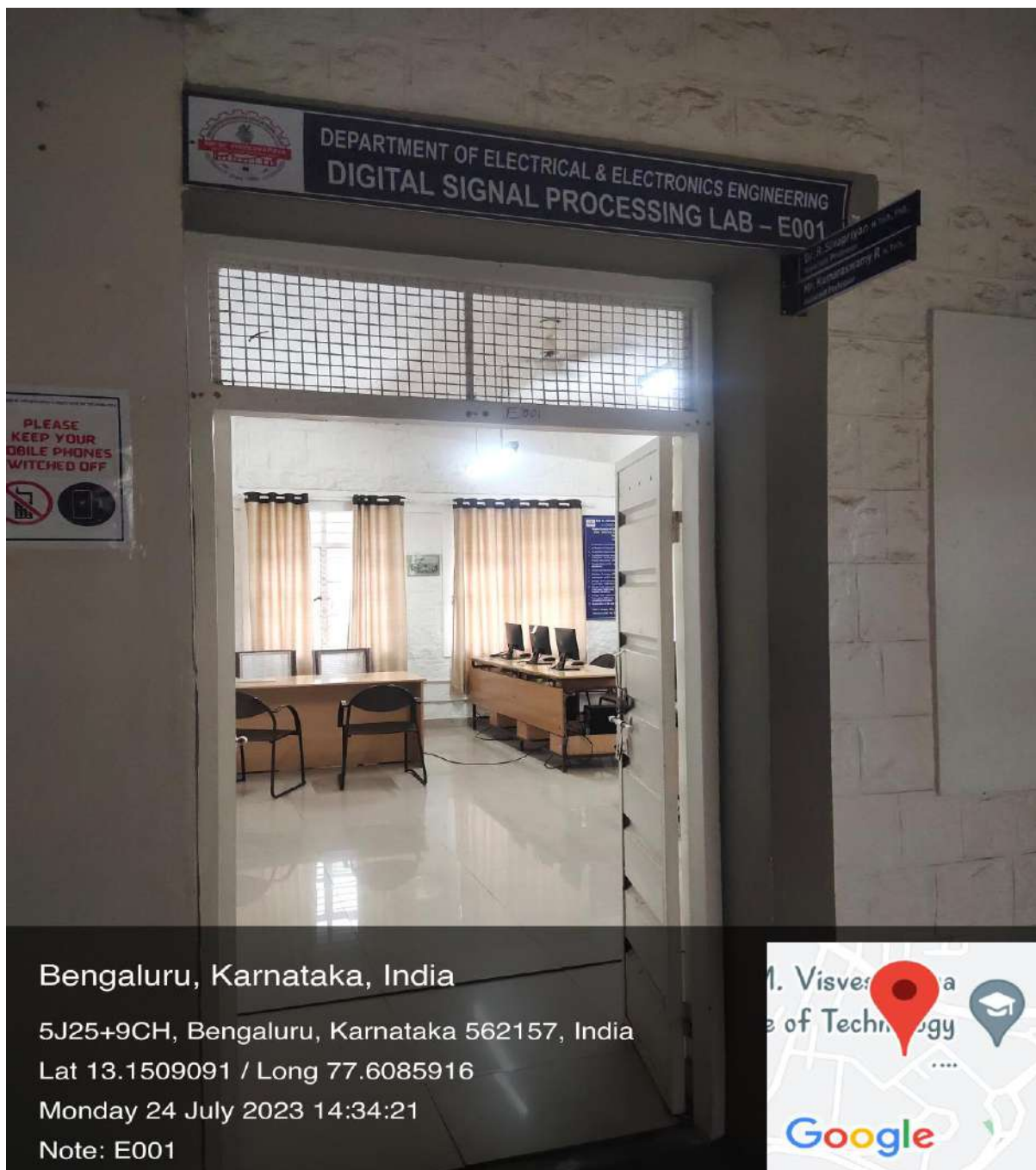
1. Experimentally verify the characteristics of over current, over voltage, under voltage and negative sequence relays both electromagnetic and static type.
2. Experimentally verify the characteristics of microprocessor based over current, over voltage, under voltage relays and distance relay.
3. Show knowledge of protecting generator, motor and feeders.
4. Analyze the spark over characteristics for both uniform and non-uniform configurations using High AC and DC voltages.
5. Measure high AC and DC voltages and breakdown strength of transformer oil.
6. Draw electric field and measure the capacitance of different electrode configuration models.
7. Show knowledge of generating standard lightning impulse voltage to determine efficiency, energy of impulse generator and 50% probability flashover voltage for air insulation.

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4. Digital signal processing Laboratory



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

DIGIAL SIGNAL PROCESSING LABORATORY

(18EEL68 - For VI Semester E & E)



Prepared by
Ms. R Subha
Ms. Nayana B R

Department of Electrical and Electronics Engineering
Sir M. Visvesvaraya Institute of Technology
BANGALORE 562 157

For Internal Circulation Only

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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

B.E ELECTRICAL AND ELECTRONICS ENGINEERING(EEE) CHOICE BASED CREDIT SYSTEM (CBCS) SEMESTER - VI DIGITAL SIGNAL PROCESSING LABORATORY			
Subject Code	15EEL68	IA Marks	20
Number of Practical Hours/Week	03	Exam Hours	03
Total Number of Practical Hours	42	Exam Marks	80
Credits - 02			
Course objectives: - To explain the use of MATLAB software in evaluating the DFT and IDFT of given sequence - To verify the convolution property of the DFT - To design and implementation of IIR and FIR filters for given frequency specifications. - To realize IIR and FIR filters. - To help the students in developing software skills.			
Sl. No	Experiments		
1	Verification of Sampling Theorem both in time and frequency domains		
2	Evaluation of impulse response of a system		
3	To perform linear convolution of given sequences		
4	To perform circular convolution of given sequences using (a) the convolution summation formula (b) the matrix method and (c) Linear convolution from circular convolution with zero padding.		
5	Computation of N – point DFT and to plot the magnitude and phase spectrum.		
6	Linear and circular convolution by DFT and IDFT method.		
7	Solution of a given difference equation.		
8	Calculation of DFT and IDFT by FFT		
9	Design and implementation of IIR filters to meet given specification (Low pass, high pass, band pass and band reject filters)		
10	Design and implementation of FIR filters to meet given specification (Low pass, high pass, band pass and band reject filters) using different window functions		
11	Design and implementation of FIR filters to meet given specification (Low pass, high pass, band pass and band reject filters) using frequency sampling technique.		
12	Realization of IIR and FIR filters		
Revised Bloom's Taxonomy Level	L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analysing, L5 – Evaluating,		
Course outcomes: At the end of the course the student will be able to: - Give physical interpretation of sampling theorem in time and frequency domains. - Evaluate the impulse response of a system. - Perform convolution of given sequences to evaluate the response of a system. - Compute DFT and IDFT of a given sequence using the basic definition and/or fast methods. - Provide a solution for a given difference equation. - Design and implement IIR and FIR filters - Conduct experiments using software and prepare reports that present lab work			
Graduate Attributes (As per NBA) Engineering Knowledge, Problem Analysis, Individual and Team work, Communication.			
Conduct of Practical Examination: - All laboratory experiments are to be included for practical examination. - Breakup of marks and the instructions printed on the cover page of answer script to be strictly adhered by the examiners. - Students can pick one experiment from the questions lot prepared by the examiners. - Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero.			

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

15EEL68 DIGITAL SIGNAL PROCESSING LAB

LIST OF EXPERIMENTS

1. Introduction to MATLAB and Generation of elementary signals
2. Verification of Sampling Theorem
3. Evaluation of Impulse response of a system
4. Solution of difference equation
5. Computation of DFT and IDFT
6. Circular convolution
7. Linear Convolution
8. Design and implementation of IIR filters
9. Realization of IIR and FIR filters
10. Design and implementation of FIR filters

BEYOND SYLLABUS EXPERIMENTS

1. Quantization Error
2. Edge detection of images by filtering
3. Audio compression and reconstruction



4. Basic Electrical Laboratory



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

BASIC ELECTRICAL ENGINEERING LABORATORY MANUAL

(CHOICE BASED CREDIT SYSTEM [CBCS])



Ver 1.0
[18ELE17/27], I/II SEM

Prepared by
Dr. M.S. SURESH
Associate Professor

Compiled by
Dr. H. L. SURESH
Professor & Head

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Basic Electric Engineering Laboratory

18ELEEL17/27

CONTENTS

Sl. No	Name of the Contents	Page
1	Verification of KCL and KVL for DC circuits	1
2	Measurement of current, power and power factor of Incandescent lamp, Fluorescent lamp and LED lamp	4
3	Measurement of resistance and inductance of a choke coil using three voltmeter method.	8
4	Determination of phase and line quantities in three phase STAR and DELTA connected balanced three phase load.	10
5	Measurements of three phase power using two wattmeter method.	13
6	Two way and three way control of lamp and formation of truth table.	16
7	Measurement of Earth resistance	19
8	Study of effect of OPEN and SHORT circuit in simple DC circuits.	22
Demonstration Experiments		
9	Demonstration of Fuse and MCB separately by creating a fault.	24
10	Demonstration of cut-out sections of electrical machines (D.C machines, Induction machines and Synchronous machines)	26
11	Understanding A.C and D.C supply. use of tester and test lamp to ascertain the healthy states of mains	31
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Basic Electric Engineering Laboratory

18EEEL17/27

BASIC ELECTRICAL ENGINEERING LABORATORY

Semester	I II	CIE Marks	40
Course Code	18EEEL17/18EEEL27	SEE Marks	60
Teaching Hours/week(L:T:P)	0:0:2	Exam Hours	03
CREDIT :01			

LIST OF EXPERIMENTS

1. Verification of KCL and KVL for DC circuits
2. Measurement of current, power and power factor of Incandescent lamp, Fluorescent lamp and LED lamp
3. Measurement of resistance and inductance of a choke coil using three voltmeter method.
4. Determinations of phase and line quantities in three phase STAR and DELTA connected balanced three phase load.
5. Measurements of three phase power using two wattmeter method.
6. Two way and three way control of lamp and formation of truth table.
7. Measurement of Earth resistance.
8. Study of effect of OPEN and SHORT circuit in simple DC circuits.

Demonstration Experiments (For CIE Only)

1. Demonstration of Fuse and MCB separately by creating a fault.
2. Demonstration of cut-out sections of electrical machines (DC machines, Induction machines and Synchronous machines)
3. Understanding AC and DC supply. Use of Tester and Test Lamp to ascertain the healthy states of mains.
4. Understanding of UPS

REVISED BLOOM'S TAXONOMY LEVELS:

1. L1-Remembering
2. L2-Understanding
3. L3-Appling
4. L4-Analysing

GRADUATE ATTRIBUTE :

Engineering Knowledge
Problem Analysis
Individual and Team Work
Communication

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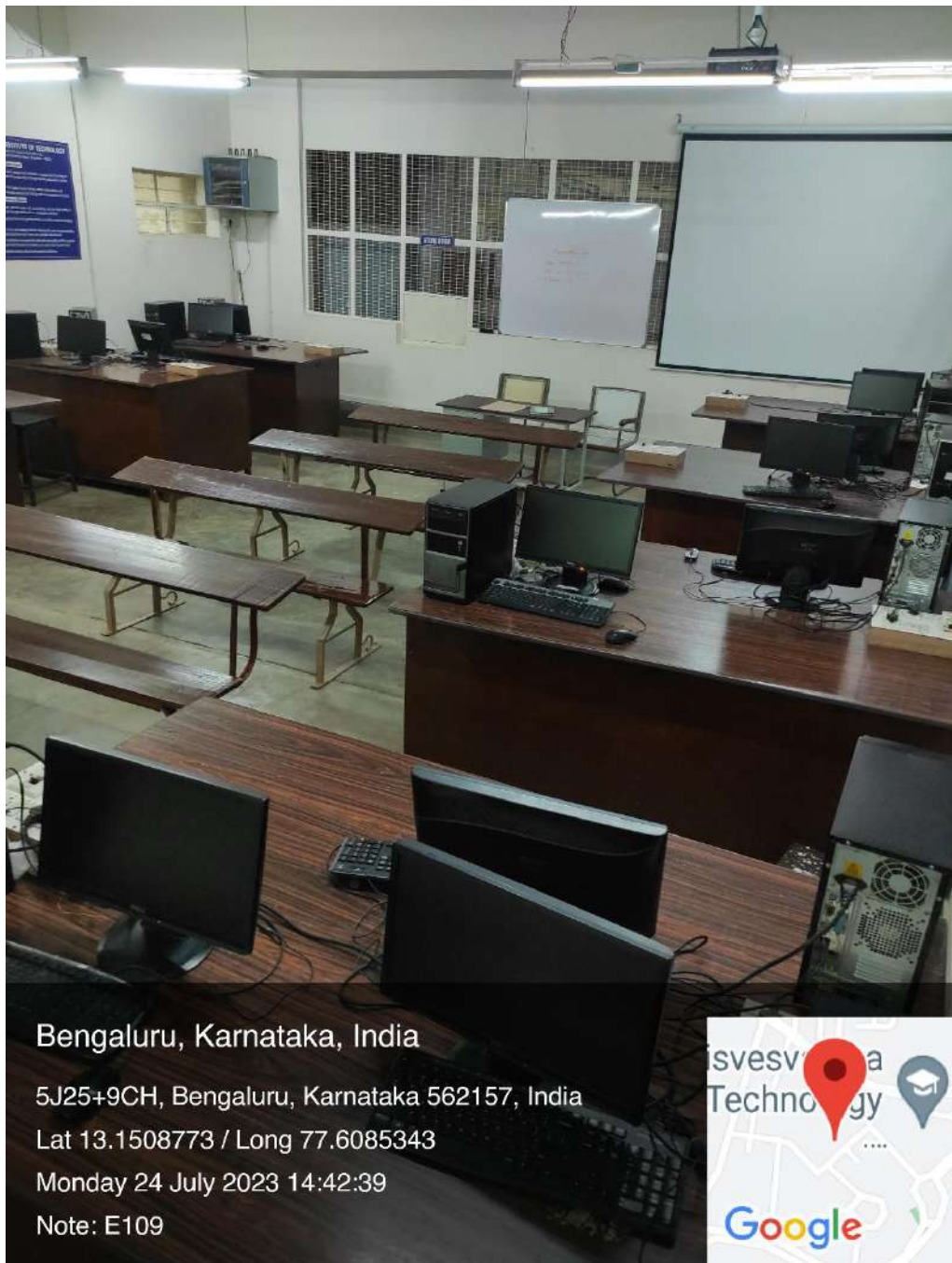
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

5. Micro controller lab



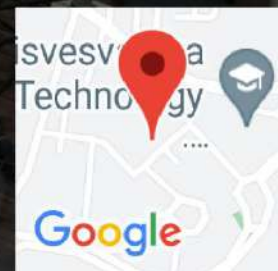
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Note: E109



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

MICROCONTROLLER LABORATORY

(18EEL57 - For V Semester EEE)



Prepared by

Mrs. D Beula

Mrs. R Subha

**Department of Electrical and Electronics Engineering
Sir M. Visvesvaraya Institute of Technology
BANGALORE 562 157**

For Internal Circulation Only

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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

B.E ELECTRICAL AND ELECTRONICS ENGINEERING(EEE) CHOICE BASED CREDIT SYSTEM (CBCS) SEMESTER -V MICROCONTROLLER LABORATORY - 1			
Subject Code	18EEL57	IA Marks	40
Number of Practical Hours/Week	03	Exam Hours	03
Total Number of Practical Hours	42	Exam Marks	60
Credits - 02			
Course objectives: - To explain writing assembly language programs for data transfer, arithmetic, Boolean and logical instructions. - To explain writing assembly language programs for code conversions. - To explain writing assembly language programs using subroutines for generation of delays, counters, configuration of SFRs for serial communication and timers. - To perform interfacing of stepper motor and dc motor for controlling the speed. - To explain generation of different waveforms using DAC interface. ■			
Sl. no	Experiments		
Note: For the experiments 1 to 6, 8051 assembly programming is to be used.			
1	Data transfer – Program for block data movement, sorting, exchanging, finding largest element in an array.		
2	Arithmetic instructions: Addition, subtraction, multiplication and division. Square and cube operations for 16 bit numbers.		
3	Counters		
4	Boolean and logical instructions (bit manipulation).		
5	Conditional call and return instructions.		
6	Code conversion programs – BCD to ASCII, ASCII to BCD, ASCII to decimal, Decimal to ASCII, Hexa decimal to and Decimal to hexa.		
7	Programs to generate delay, Programs using serial port and on-chip timer/counters.		
Note: Single chip solution for interfacing 8051 is to be with C Programs for the following experiments.			
8	Stepper motor interface.		
9	DC motor interface for direction and speed control using PWM.		
10	Alphanumerical LCD panel interface.		
11	Generate different waveforms: Sine, Square, Triangular, Ramp using DAC interface.		
12	External ADC and Temperature control interface.		
13	Elevator interface.		
Revised Bloom's Taxonomy Level	L1 – Remembering, L2 – Understanding, L3 – Applying, L4 – Analysing, L5 – Evaluating. L6 – Creating.		
Course outcomes: At the end of the course the student will be able to: - Write assembly language programs for data transfer, arithmetic, Boolean and logical instructions. - Write ALP for code conversions. - Write ALP using subroutines for generation of delays, counters, configuration of SFRs for serial communication and timers. - Perform interfacing of stepper motor and dc motor for controlling the speed. - Generate different waveforms using DAC interface. - Work with a small team to carryout experiments using microcontroller concepts and prepare reports that present lab work. ■			
Graduate Attributes (As per NBA) Engineering Knowledge, Problem Analysis, Individual and Team work, Modern tool usage, Communication.			

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

18EEL57 MICROCONTROLLERS LAB

LIST OF EXPERIMENTS

S. No	Experiment	Page No.
CYCLE 1 - Assembly language programs with 8051		
1	Data Transfer Instructions	
	A. Block Data Transfer Without Overlap	
	B. Block exchange	
	C. Sorting – Ascending and Descending	
	D. Finding Largest and Smallest number in an array	
2	Arithmetic Instructions	
	A. Arithmetic operations	
	B. Finding Square of a number using LUT	
	C. Finding Cube of an eight bit number	
3	Counters	
	A. Hexadecimal up counter	
	B. Hexadecimal down counter	
	C. Decimal up counter	
	D. Decimal down counter	
	E. Generation of one second delay using on chip timer	
4	Boolean and Logical Instructions	
	A. Program illustrating bit manipulations	
	B. Byte level logical operations	
	C. Bit level logical operations	
5	Code Conversion Programs	
	A. Decimal to hexadecimal code conversion	
	B. Hexadecimal to decimal code conversion	
	C. Decimal to ASCII code conversion	
	D. ASCII to decimal code conversion	

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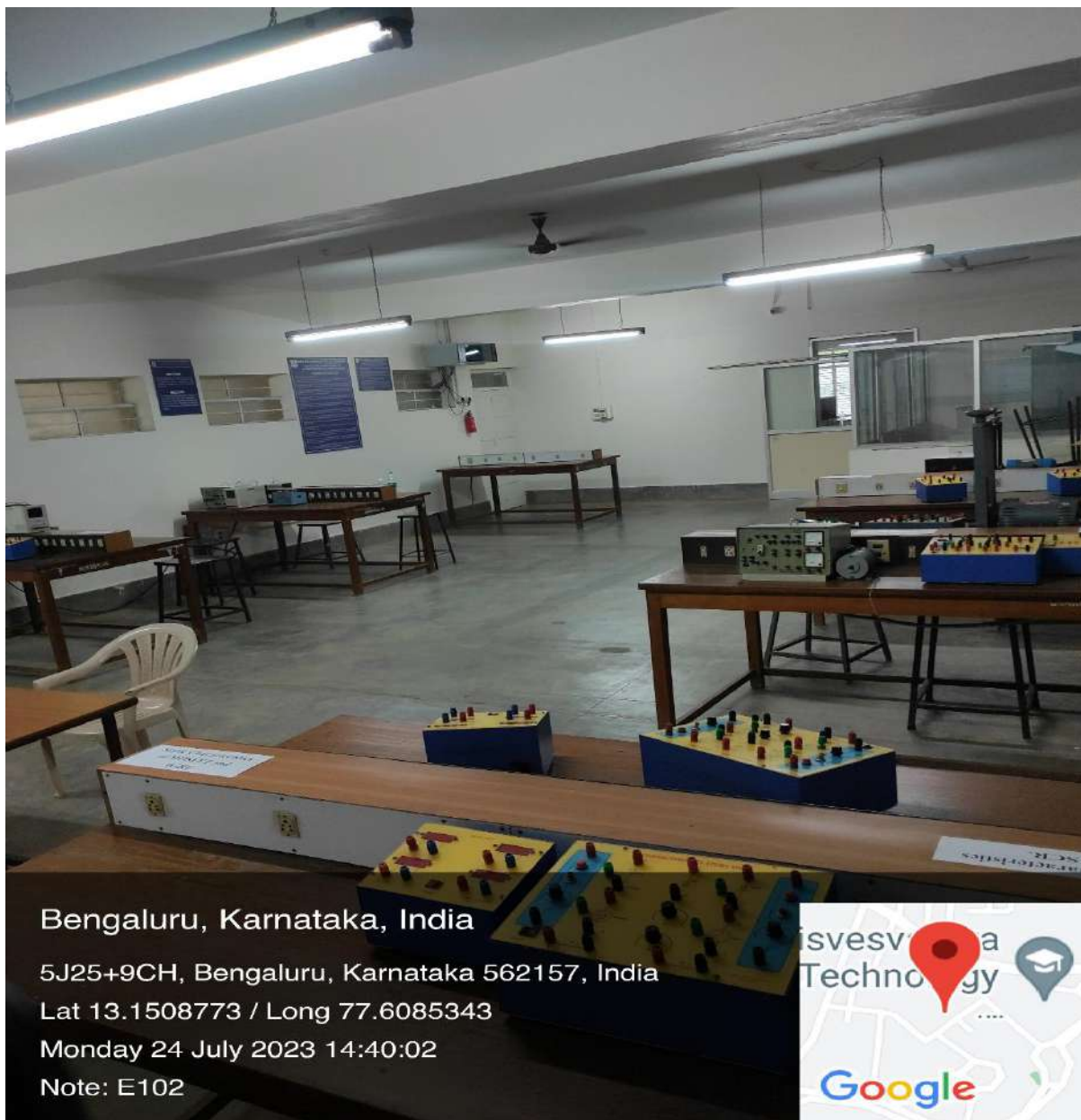


DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

2	DC Motor Interface	
3	Alphanumeric LCD Panel Interface	
4	Generation of Waveforms using DAC Interface	
	A. Square wave of 1KHz having 50% duty cycle.	
	B. Square wave of 60% duty cycle	
	C. Triangular wave	
	D. Ramp wave	
	E. Sine wave	
5	Elevator Interface	
Beyond Syllabus Experiments		
1	Interfacing LCD with PIC 16F877A Microcontroller	
2	Temperature measurement using PIC 16F877A Microcontroller and Sensor	



6. Power electronics Laboratory



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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

LM/EE/SEM-05/02

POWER ELECTRONICS LABORATORY

(10EEL58 - For V Semester E & E)



Lab in charge: **Mrs. Bindiya Tyagi**

Prepared by
Mrs. Ragasudha C P
Mrs. Reshma T M

Department of Electrical and Electronics Engineering
Sir M. Visvesvaraya Institute of Technology
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**DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

POWER ELECTRONICS LABORATORY
B.E., V Semester, Electrical and Electronics Engineering [As per
Choice Based Credit System (CBCS) scheme]

Course Code	17EE158	CIE Marks	40
Number of Practical Hours/Week	03-(1 Hour Instruction + 2 Hours Laboratory)	SEE Marks	60
RBT levels	L1,L2,L3	Exam Hours	03
Credits - 02			

Course objectives:

- To conduct experiments on semiconductor devices to obtain their static characteristics.
- To study different methods of triggering the SCR
- To study the performance of single phase controlled full wave rectifier and AC voltage controller with R and RL loads.
- To control the speed of a dc motor, universal motor and stepper motors.
- To study single phase full bridge inverter connected to resistive load.
- To study commutation of SCR. ■

Sl. No	Experiments
1	Static Characteristics of SCR.
2	Static Characteristics of MOSFET and IGBT.
3	Characteristic of TRIAC.
4	SCR turn on circuit using synchronized UJT relaxation oscillator.
5	SCR digital triggering circuit for a single phase controlled rectifier and ac voltage regulator.
6	Single phase controlled full wave rectifier with R and R-L loads.
7	AC voltage controller using TRIAC and DIAC combination connected to R and RL loads.
8	Speed control of dc motor using single semi converter.
9	Speed control of stepper motor.
10	Speed control of universal motor using ac voltage regulator.
11	Speed control of a separately excited D.C. Motor using an IGBT or MOSFET chopper.
12	Design of Snubber circuit.

Revised Bloom's Taxonomy Level L₃ - Applying, L₄ - Analysing, L₅ - Evaluating, L₆ - Creating

Course outcomes:

At the end of the course the student will be able to:

- Obtain static characteristics of semiconductor devices to discuss their performance.
- Trigger the SCR by different methods
- Verify the performance of single phase controlled full wave rectifier and AC voltage controller with R and RL loads.
- Control the speed of a dc motor, universal motor and stepper motors.
- Verify the performance of single phase full bridge inverter connected to resistive load.
- Perform commutation of SCR by different methods.

Graduate Attributes (As per NBA)

Engineering Knowledge, Problem Analysis, Individual and Team work, Communication.

Conduct of Practical Examination:

- All laboratory experiments are to be included for practical examination.
- Breakup of marks and the instructions printed on the cover page of answer script to be strictly adhered by the examiners.
- Students can pick one experiment from the questions lot prepared by the examiners.
- Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero. ■

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Power Electronics Lab manual

18EEL58

LIST OF EXPERIMENTS 18EEL58 POWER ELECTRONICS LABORATORY

1. Static Characteristics of SCR.
2. Static Characteristics of MOSFET and IGBT.
3. Characteristic of TRIAC.
4. SCR turn on circuit using synchronized UJT relaxation oscillator.
5. SCR digital triggering circuit for a single phase controlled rectifier and ac voltage regulator.
6. Single phase controlled full wave rectifier with R and R-L loads.
7. AC voltage controller using TRIAC and DIAC combination connected to R and RL loads.
8. Speed control of dc motor using single semi converter.
9. Speed control of stepper motor.
10. Speed control of universal motor using ac voltage regulator.
11. Speed control of a separately excited D.C. Motor using an IGBT or MOSFET chopper.
12. Design of Snubber circuit.
13. MOSFET or IGBT based single phase full bridge inverter connected to R load.

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

7. Control system Laboratory



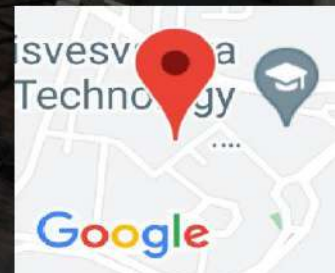
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CONTROL SYSTEM LABORATORY

(18EEL66-For VI semester E&E)



Prepared by

Dr. M S Suresh

Mrs. Rekha radhakrishnan

Department of Electrical and Electronics Engineering.

Sir M Visvesvaraya institute of technology.

Bengaluru-562157

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

CONTROL SYSTEM LABORATORY

Subject Code:18EEL66

Number of Practical Hours/Week: 03

Total Number of Practical Hours: 42

Credits – 02

IA Marks: 20

Exam Hours: 03

Exam Marks: 80

Course objectives:

- To determine the time and frequency domain responses of a given second order system using software package or discrete components.
- To design and analyze Lead, Lag and Lead-Lag compensators for given specifications.
- To draw the performance characteristics of ac and dc servomotors and synchro-transmitter receiver pair.
- To simulate the DC position and feedback control system to study the effect of P, PI, PD and PID controller and Lead compensator on the step response of the system.
- To write a script files to plot root locus, bode plot, Nyquist plots to study the stability of the system using a software package.

Experiments

1. Experiment to draw the speed torque characteristics of (i) AC servo motor (ii) DC servo motor
2. Experiment to draw synchro pair characteristics
3. Experiment to determine frequency response of a second order system
4. (a) To design a passive RC lead compensating network for the given specifications, viz, the maximum phase lead and the frequency at which it occurs and to obtain the frequency response.
(b) To determine experimentally the transfer function of the lead compensating network
5. (a) To design a passive RC lag compensating network for the given specifications, viz, the maximum phase lag and the frequency at which it occurs and to obtain the frequency response.
(b) To determine experimentally the transfer function of the lag compensating network
6. Experiment to draw the frequency response characteristics of the lag – lead compensator network and determination of its transfer function.
7. To study a second order system and verify the effect of (a) P, (b) PI, (c) PD and (d) PID controller on the step response.
8. (a) To simulate a typical second order system and determine step response and evaluate time response specifications.
(b) To evaluate the effect of additional poles and zeros on time response of second order system.
(c) To evaluate the effect of pole location on stability
9. (a) To simulate a D.C. Position control system and obtain its step response.
(b) To verify the effect of input waveform, loop gain and system type on steady state errors.
(c) To perform trade-off study for lead compensator.

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

- (d) To design PI controller and study its effect on steady state error.
10. (a) To examine the relationship between open-loop frequency response and stability, open-loop frequency and closed loop transient response
(b) To study the effect of open loop gain on transient response of closed loop system using root locus.
11. (a) To study the effect of open loop poles and zeros on root locus contour
(b) Comparative study of Bode, Nyquist and root locus with respect to stability.

Note:

Sl. No:	Description	Experiment Number
1	Perform experiments using suitable components/equipments	1 & 2
2	Perform experiments using suitable components/equipments and verify the results using standard simulation package	3, 4, 5,6 and 7
3	Perform simulation only using standard package	8, 9, 10 and 11

Course outcomes:

At the end of the course the student will be able to:

- Utilize software package and discrete components in assessing the time and frequency domain response of a given second order system.
- Design, analyze and simulate Lead, Lag and Lag – Lead compensators for given specifications.
- Determine the performance characteristics of AC and DC servomotors and synchro-transmitter receiver pair used in control systems.
- Simulate the DC position and feedback control system to study the effect of P, PI, PD and PID controller and Lead compensator on the step response of the system.
- Develop a script files to plot Root locus, Bode plot and Nyquist plot to study the stability of system using a software package.

Conduct of Practical Examination:

- All laboratory experiments are to be included for practical examination.
- Breakup of marks and the instructions printed on the cover page of answer script to be strictly adhered by the examiners.
- Students can pick one experiment from the questions lot prepared by the examiners.
- Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero.



8. Project laboratory



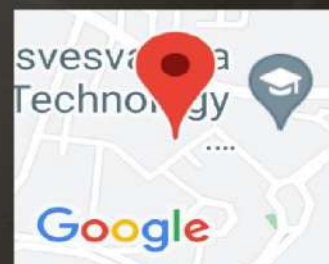
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Note: E311





9. Research and Development Laboratory



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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

2.3.1: STUDENT CENTRIC LEARNING METHODS

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Bangalore - 562157

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

COMPUTER PROGRAMMING LABORATORY

(21CPL17/27 - I/II Semester B.E.)
(Common to all Branches)

(With effect from the Academic Year 2021-2022)



Name : SNEHA S. Branch : BT
USN : AMV2021017 Roll No. :
Sem : 2nd Section : K



Compiled by Mr. Vitesh Babu M
Assistant Professor, Dept. of ISE

Computer Programming Laboratory

2021-2022

Prof. & HOD

Department of Information Science and Engg.
Sir M. Visvesvaraya Institute of Technology
Bangalore

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BENGALURU - 562 157

CERTIFICATE

This is to certify that Ms/Mr. ... ANEHA S.

has satisfactorily completed the Laboratory course of Computer Programming Lab

(21CPL17/27) in C prescribed by the Visvesvaraya Technological University for the

First / Second Semester B.E., 2021-2022.

Signature of the Staff

Signature of the HOD

Computer Programming Laboratory

2021-2022

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

Institute Vision

- To be a centre of excellence in technical and management education concurrently focusing on disciplined and integrated development of personality through quality education, sports, cultural and co-curricular activities.
- To promote transformation of students into better human beings, responsible citizens and competent professionals to serve as a valuable resource for industry, work environment and society.

Institute Mission

- To impart quality technical education, provide state-of-art facilities, achieve high quality in teaching-learning & research and encourage extra & co-curricular activities.
- To stimulate in students a spirit of inquiry and desire to gain knowledge and skills to meet the changing needs that can enrich their lives.
- To provide opportunity and resources for developing skills for employability and entrepreneurship, nurturing leadership qualities, imbuing professional ethics and societal commitment.
- To create an ambience and nurture conducive environment for dedicated and quality staff to upgrade their knowledge & skills and disseminate the same to students on a sustainable long term basis.
- To facilitate effective interaction with the industries, alumni and research institutions.

Department Vision

- To empower students with knowledge and skills to develop the competency in the emerging areas of Information Technology.

Department Mission

- To train the students to have Professional career in IT industry and Higher studies Through Quality Education.
- To provide outstanding Teaching and Research environment by implementing innovative Teaching and Research Methodologies for Quality Education and Research.

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**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING****Index Sheet**

SINo	Experiment Name	Marks	Remarks
1	Simulation of a Simple Calculator.	38	Obtained
2	Compute the roots of a quadratic equation by accepting the coefficients. Print appropriate messages.	38	Obtained
3	An electricity board charges the following rates for the use of electricity: for the first 200 units 80 paise per unit; for the next 100 units 90 paise per unit; beyond 300 units Rs 1 per unit. All users are charged a minimum of Rs. 100 as meter charge. If the total amount is more than Rs. 400, then an additional surcharge of 15% of the total amount is charged. Write a program to read the name of the user, the number of units consumed, and print out the charges.	38	Obtained
4	Implement Binary Search on Integers / Names.	38	Obtained
5	Implement Matrix multiplication and validate the rules of multiplication.	38	Obtained
6	Compute $\sin(x)/\cos(x)$ using Taylor series approximation. Compare your result with the built-in library function. Print both the results with appropriate inferences.	38	Obtained
7	Sort the given set of N numbers using Bubble sort.	38	Obtained
8	Write functions to implement string operations such as compare, concatenate, string length. Convince the parameter passing techniques.	38	Obtained
9	Implement structures to read, write and compute average marks and the students scoring above and below the average marks for a class of N students.	38	Obtained
10	Develop a program using pointers to compute the sum, mean and standard deviation of all elements stored in an array of N real numbers.	38	Obtained
11	Implement Recursive functions for Binary to Decimal Conversion.	38	Obtained

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List of additional Programs

Sl No	Program Name	Planned date	Executed date	Remarks by HOD
1.	Write a program to implement Pascal's triangle	3+3+6=12	B	
2.	Write a program to find out the largest of 3 nos.	2+3+6=11	B	
3.	Write a program to find the factorial of a given no.	3+3+6=12	B	
4.	Write a program to find if the given no is prime/not.	3+3+6=12	B	
5.	Write a program to check if the given no. is palindrome or not.	3+3+6=12	B	
6.	Write a program to find the GCD/Greatest Common Divisor.	3+3+6=12	B	

$T_1=20, T_2=20$ Avg=20

CIE=29

49

Computer Programming Laboratory

2021-2022

Principal

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INTRODUCTION

Algorithm:

- An algorithm is a basic tool which is used to express the solution for a given problem systematically in the form of instructions. This solution is called logic. It takes a set of input values and produces the desired output.
- An algorithm is defined as unambiguous, step by step procedure (instructions) to solve a given problem in finite number of steps by accepting a set of inputs and producing the desired output. After producing the result, the algorithm should terminate. Usually, Algorithms are written in simple English like statements along with simple mathematical expressions.

Characteristics of an Algorithm:

- **Input:** It may accept a zero or more inputs.
- **Output:** It should produce at least one output (result).
- **Definiteness:** Each instruction must be clear, well defined and precise. There should not be any ambiguity.
- **Finiteness:** It should be a sequence of finite instructions. That is, it should end after a fixed time. It should not enter into an infinite loop.
- **Effectiveness:** This means that operations must be simple and are carried out in a finite time at one or more levels of complexity. It should be effective whenever traced manually for the results.

Algorithmic Notations:

- Name of the Algorithm
- Step number
- Explanatory Comment
- Termination

Flowchart:

- A flow chart is a pictorial representation of an algorithm. That is flowchart consists of sequence of instructions that are carried out in an algorithm. All the steps are drawn form of different shapes of boxes, circle and connecting arrows. Flowcharts are mainly used to help programmer to understand the logic of the program.
- The various types of geometric shapes, arrows and symbols used while drawing the flowchart are called flowchart symbols. The symbols used and the meaning associated with each symbol are shown below.

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Flow chart symbols

	Oval	Terminal
	Parallelogram	Input/output
	Rectangle	Process
	Document	Hard copy
	Diamond	Decision
	Circle	Connector
	Double sided Rectangle	Sub program
	Hexagon	Iteration
	Trapezoid	Manual Operation
	Cylinder	Magnetic Disk Storage

Note: - Follow the steps mentioned below for editing and executing the programs in Linux Environment (FEDORA).

- Open new terminal on linux environment
- Go to the Linux command prompt (\$ or #).
- Type gedit program1.c for example vi program1.c
- The geditor will open for entering the program.
- After typing the program, save the program and exit from geditor by clicking on close button.
- To compile a program, At the command prompt type gcc program1.c
- Type ./a.out to run the program.

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1. Simulation of a Simple Calculator

Algorithm:

Step 1: Start

STEP 2: [Enter an operator]

Read operator

STEP 3: [Enter any 2 operators]

Read num1 and num 2.

STEP 4: [Compile the results after users choice]

Case '+':

Result = num1 + num 2;

go to step 6

Case '-':

Result = num1 - num 2;

Case '*':

Result = num1 * num 2;

go to step 6

Case '/':

Result = num1 / num 2;

go to step 6

STEP 5: [display a msg for invalid operator]

Print: You have entered an invalid operator

STEP 6: [display result]

Print: result

STEP 7: Stop.

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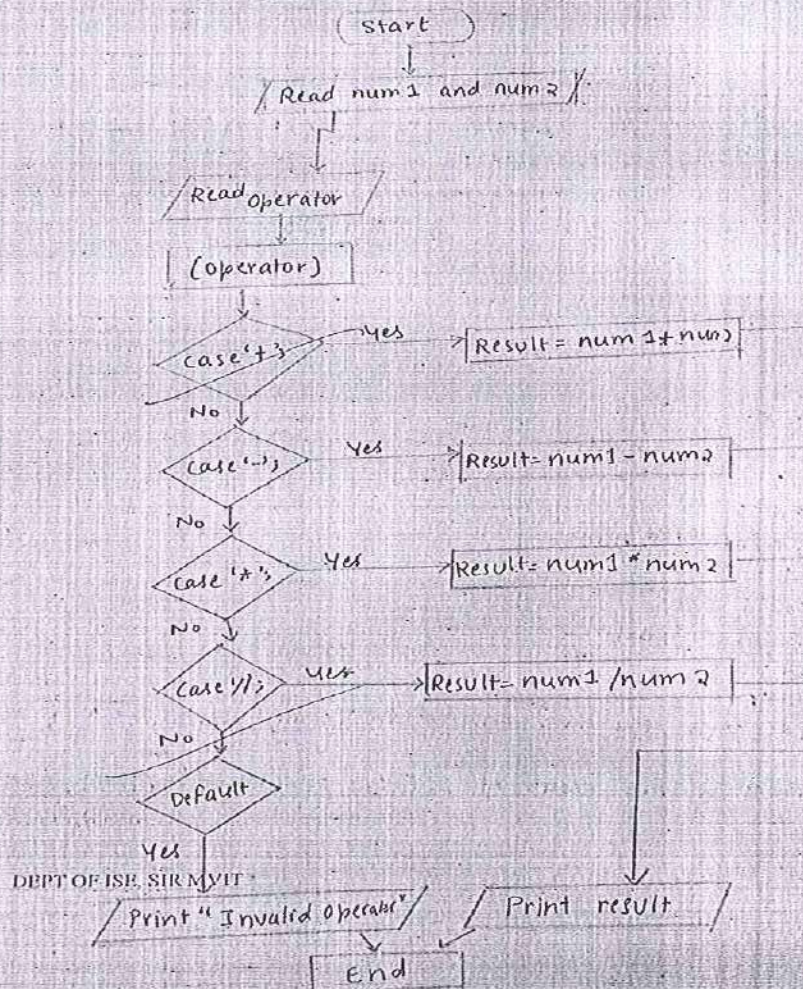
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Flowchart:

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Program:

```

#include <stdio.h>
int main ()
{
    char operator;
    float num1, num2, result=0;
    printf("Enter an operator (+, -, *, /): \n");
    scanf("%c" & operator);
    printf("Enter the value for two operands: num1 and num2: \n");
    scanf("%f %f", &num1, &num2);
    switch (operator)
    {
        case '+':
            result = num1 + num2;
            break;
        case '-':
            result = num1 - num2;
            break;
        case '*':
            result = num1 * num2;
            break;
        case '/':
            result = num1 / num2;
            break;
        default:
            printf("\n You have entered an invalid operator");
    }
    printf("\n The result of %f %c %f = %f", num1, operator, num2, result);
}

```

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Output:

1> Enter an operator (+, -, *, /);

Enter the values for two operands: num1 and num2:

3

7

The result of $3.000000 - 7.000000 = -4.000000$

2> Enter an operator (+, -, *, /);

+

Enter the values for two operands: num1 and num2:

9

8

The result of $9.000000 + 8.000000 = 17.000000$

Tilak

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PROJECT ENTITLED
"JOB RECOMMENDATION SYSTEM USING NLP"

Submitted for the requirements for the award of degree of

BACHELOR OF ENGINEERING
IN
INFORMATION SCIENCE AND ENGINEERING

For the Academic year 2022-2023

Submitted by:

GIETIKA AGARWAL
SNEHA KUMARI

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Project carried out at:
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CERTIFICATE

This is certified that the project work entitled "JOB RECOMMENDATION SYSTEM USING NLP" is the bonafide work carried out by GITTICA AGARWAL (IMV19IS022) and SNEHA KUMARI (IMV19IS055) students of Sir M Visvesvaraya Institute of Technology in fulfillment of requirements for Project Phase-II for the award of the Degree of Bachelor of Engineering in Information Science and Engineering of the Visvesvaraya Technological University, Belagavi during the year 2022 - 2023. It is certified that all corrections and suggestions indicated for Assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the course of Bachelor of Engineering.

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ACKNOWLEDGMENT

It gives us immense pleasure to express our sincere gratitude to the management of Sir M. Visvesvaraya Institute of Technology, Bengaluru for providing the opportunity and the resources to accomplish our project work in their premises.

On the path of learning, the presence of an experienced guide is indispensable and we would like to thank our guide Mrs. Vijayakumara Y.M, Assistant Professor, Dept. of ISE, for his invaluable help and guidance.

Heartfelt and sincere thanks to Dr G.C Bhanu Prakash, HOD, Dept. of ISE, for his suggestions, constant support and encouragement. We would also like to convey our regards to Dr. Rakesh S G Principal, Sir, MVIT for providing us with the infrastructure and facilities needed to develop our project.

We would also like to thank the staff of the Department of Information Science and Engineering and lab-in-charges for their co-operation and suggestions. Finally, we would like to thank all our friends for their help and suggestions without which completing this project would not have been possible.

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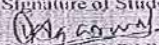
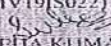
DECLARATION

We hereby declare that the entire project work embodied in this dissertation has been carried out by us and no part has been submitted for any degree or diploma of any institution previously.

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Date:

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(IMV19IS022)

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ABSTRACT

The field of machine learning is introduced at a conceptual level. Ideas such as supervised and unsupervised as well as regression and classification are explained. The tradeoff between bias, variance, and model complexity is discussed as a central guiding idea of learning. Various types of models that machine learning can produce are introduced such as the neural network (feed-forward and recurrent), support vector machine, random forest, self-organizing map, and Bayesian network. Training a model is discussed next with its main ideas of splitting a dataset into training, testing, and validation sets as well as performing cross-validation. Assessing the goodness of the model is treated next alongside the essential role of the domain expert in keeping the project real.

Artificial Intelligence (AI) research, and in particular advances in machine learning (ML) and deep learning (DL), have led to breakthrough innovations in radiology, pathology, genomics, and other fields. Modern DL models have millions of parameters that must be learned from sufficiently large curated datasets to achieve clinical-level accuracy while being safe, fair, equitable, and generalize well to unseen data.

For example, training an AI-based tumor detector requires a large database containing the full range of possible anatomies, pathologies, and input data types. Such data are difficult to obtain because health data are highly sensitive, and their use is strictly regulated. Even if anonymizing data could circumvent these limitations, removing patient metadata such as name or birthday is often insufficient to preserve privacy. Data sharing is not systematic in healthcare because collecting, curating, and maintaining a high-quality dataset requires significant time, effort, and cost. Consequently, such datasets may have significant commercial value, making it less likely that they will be shared freely. Instead, data collectors often retain fine-grained control over the data they collect.

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4.3 PROPOSED SYSTEM

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6.4 CODE IMPLEMENTATION

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7.2 LEVELS OF TESTING

7.3 TESTING METHODS

7.4 TEST ENVIRONMENT

CHAPTER 8: RESULTS

CHAPTER 9: CONCLUSION AND FUTURE SCOPE

CHAPTER 10: REFERENCES

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MINI PROJECT REPORT ON "HOSPITAL MANAGEMENT SYSTEM"

Submitted in partial fulfillment for the requirements of the fifth semester for DBMS with Mini Project Lab for

BACHELOR OF ENGINEERING
IN
INFORMATION SCIENCE AND ENGINEERING

For the Academic year 2020-2021

Submitted by:

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CERTIFICATE

It is certified that the project work entitled "HOSPITAL MANAGEMENT SYSTEM" is a bonafide work carried out by Nikitha PS (IMV18IS035), Prajwal S (IMV18IS038), Samiksha S Salpate (IMV18IS019) in partial fulfillment for the requirements of mini project for the V semester curriculum, Bachelor of Engineering in Information Science and Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2020-2021. It is certified that all corrections and suggestions indicated for internal assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the course of Bachelor of Engineering.

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We would also like to convey our regards and sincere thanks to Dr. P. Vijayakarthish HOD, Dept. of ISE for his suggestions, constant support and encouragement. Heartfelt and sincere thanks to Dr. V.R. Manjunath, Principal, Sir. MVIT for providing us with the infrastructure and facilities needed to develop our project.

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DECLARATION

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Samiksha S

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SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157.

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

ABSTRACT

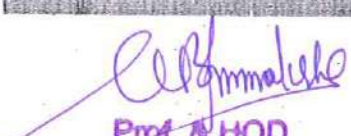
Our project is *Hospital Management System*. This web application allows the user, receptionist and doctor to view patient's information, edited previously existing information and add New information to the patient's database virtually using the internet.

Hospital Management system is important for the collection of patient information. It will also assist in achieving efficiency due to the processing of data, thus giving the Healthcare provider relevant information with a click-of-a-button.

Accurate and comprehensive healthcare data are vitally important for a variety of purposes, as examining diagnostic coding in intensive care patients. These data may be used for local assessments or evaluations within a healthcare system, such as for specific outpatient conditions or inpatient hospital events. The data may also be used regionally or nationally for assessing performance within or across healthcare systems.

The patients can view the record of their medical history information. Personal medical history includes information about allergies, illnesses, surgeries, immunizations, and results of physical exams and tests. It also includes information about medicines taken and health habits, such as diet and exercise.

It is an interactive solution that aids doctors to comprehend the patient's medical history and to perform diagnosis. It also helps the receptionist to manage patients' appointments, add new patients to the database, allocate a doctor to the patient and to perform various functions.


Prof. & HOD

Department of Information Science and Engg.
Sir M. Visvesvaraya Institute of Technology
Bangalore

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Student Development Program



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Accredited by NAAC, Approved by AICTE New Delhi, Affiliated to VTU, Belagavi

Krishnadevaraya Nagar, Hunasamaranahalli, Bengaluru - 562157

Department of Information Science and Engineering

cordially invite you

for

Webinar on

“SOFTWARE AND IT'S APPLICATIONS”

On 17th March 2022 at 10.30 A M

By

Mrs. R Vijaya Lakshmi

Assistant Professor

Vemana Institute of Technology

Bengaluru

Organized by

Mrs. Suguna M K

Assistant Professor, Dept. of ISE

Dr. P.Vijayakarthish

Professor and Head, Dept of ISE,
SMVIT, Bangalore

Dr. V.R. Manjunath

Principal, SMVIT, Bangalore

Prof. & HOD

Department of Information Science and Engg.
Sir M. Visvesvaraya Institute of Technology
Bengaluru

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In Association with ISTE, IIC and Computer Society of India

Department of Information Science and Engineering

Organizing
webinar on



“ SOFTWARE AND IT'S APPLICATIONS ”

Resource Person

Mrs. R Vijaya Lakshmi

Assistant Professor

Vemana Institute of Technology
Bengaluru

Google Meet link: <https://meet.google.com/wrf-twuz-psa>

Registration Link: <https://forms.gle/pM9UBiCzYs3pah5E9>

Date & Time : 17th March 2022 (Thursday) @ 10,30 A M

Target Audience: II Year Students

Principal

Dr.V.R.Manjunath

Convenor

Mrs. Suguna M K

Head of the Department

Dr.P.Vijayakarthik

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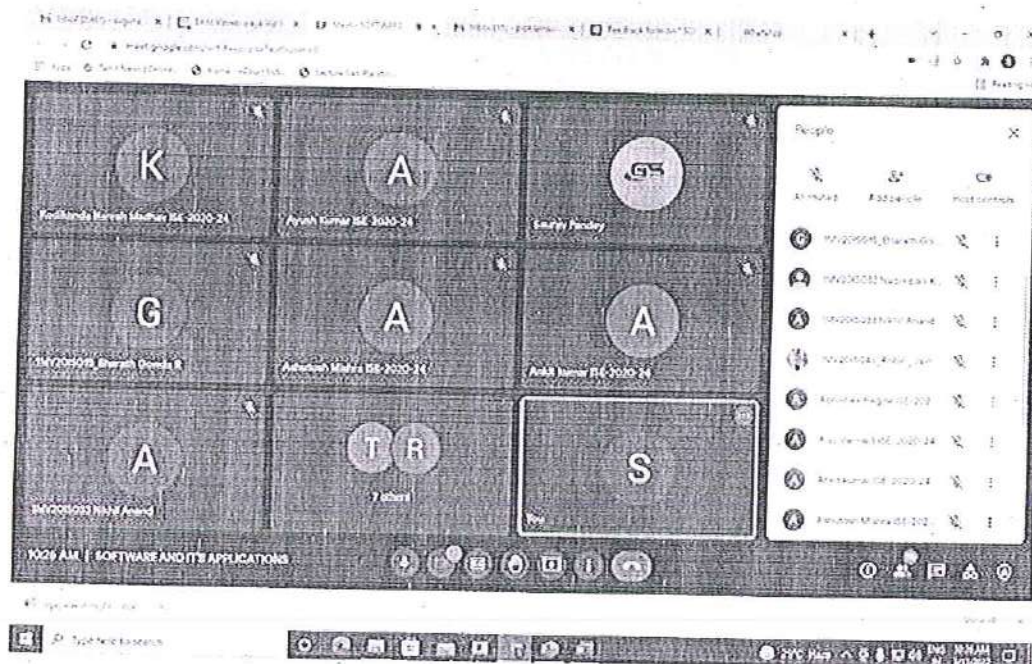
SOFTWARE AND IT'S APPLICATIONS

Thursday, March 17 - 10:30am - 12:00pm

Google Meet joining info

Video call link: <https://meet.google.com/wrf-twuz-psa>

Or dial: (US) +1 442-600-4226 PIN: 822 807 147#



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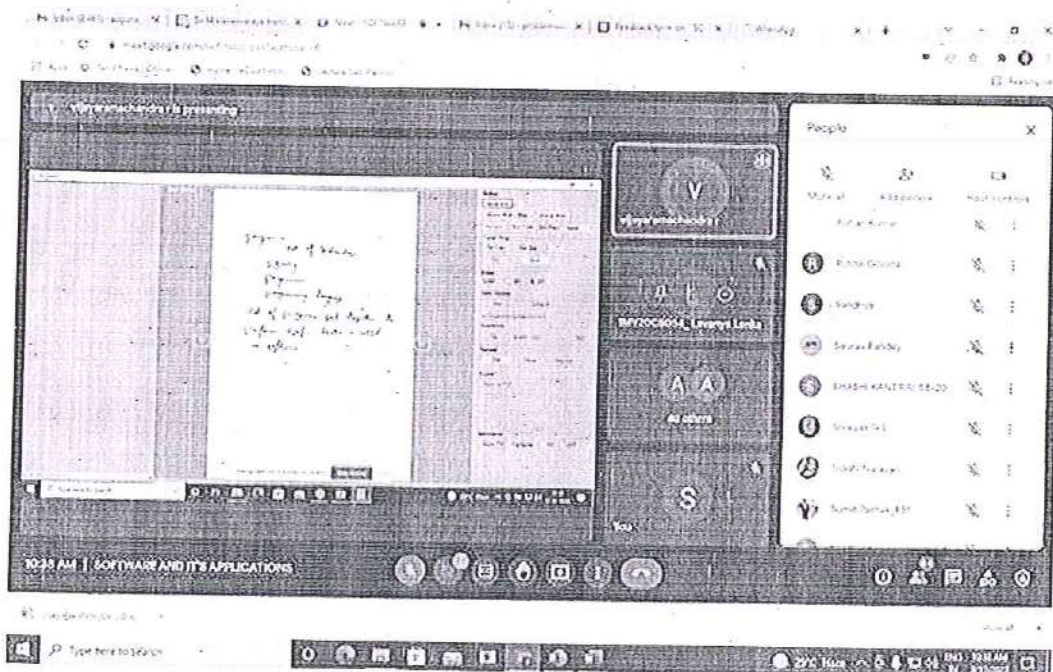
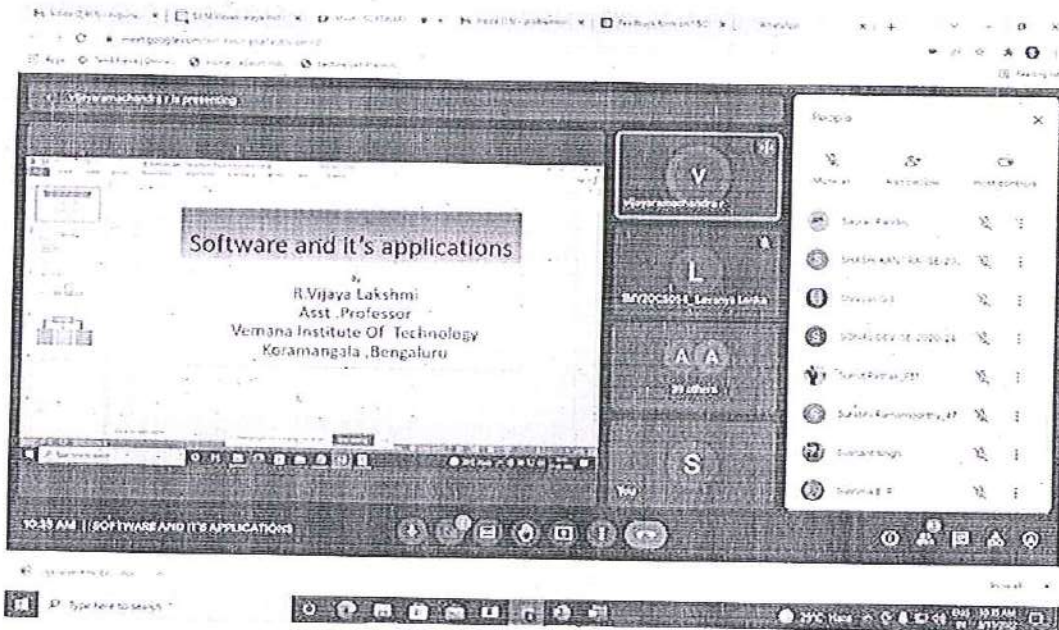
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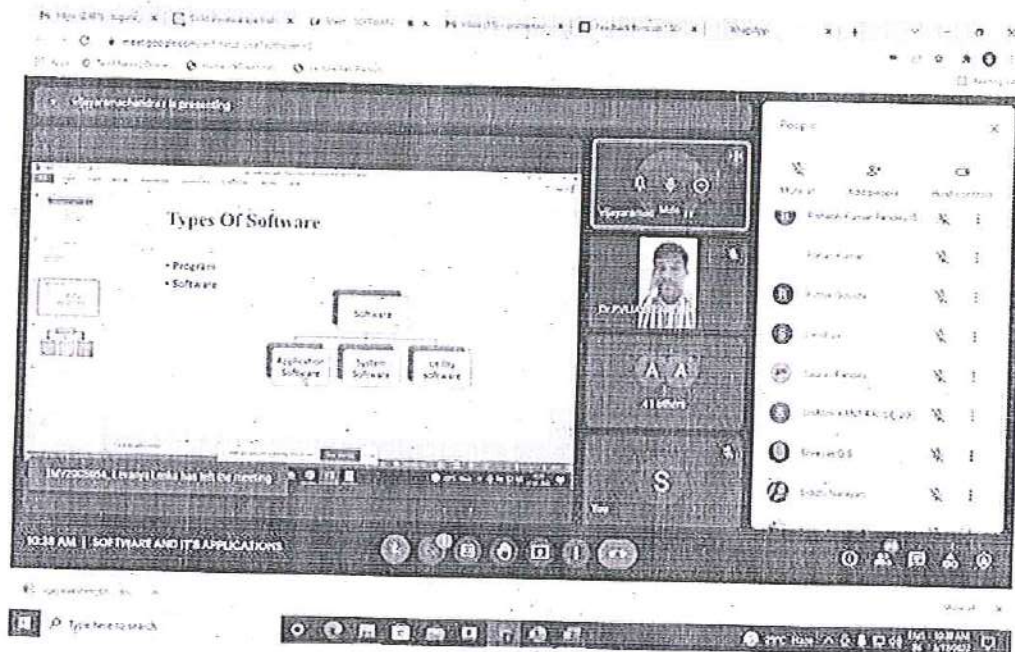
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Feedback form on " SOFTWARE AND IT'S APPLICATIONS "

Suguna M.K
Assistant Professor
Dept of ISE

SOFTWARE AND IT'S APPLICATIONS

Thursday, March 17 - 10:30am - 12:00pm

Google Meet joining info

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suguna_is@sirmvit.edu Switch account

Not shared

* Indicates required question

Student Name *

Your answer

USN *

Your answer

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Email Id *

Short answer text

Was the subject content presented effectively ? *

☐ Excellent

☐ Good

☐ Fair

☐ Poor

How would you rate the delivery of information in this session ? *

☐ Excellent

☐ Good

☐ Fair

☐ Poor

Did you gain knowledge out of this session ? *

☐ Yes

☐ No

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Do you think this Programme has contributed you to understand the fundamental basics of Software and it's applications? *

☐ Strongly Agree

☐ Agree

☐ Somewhat Agree

Do you think this Programme has contributed you to Perform Conduction of Investigations of Complex Problems ? *

☐ Strongly Agree

☐ Agree

☐ Somewhat Agree

If any comments about Webinar ? *

Long answer text

Prof. & HOD

Department of Information Science and Engg.

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Bangalore

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANASANGAMA, BELAGAVI - 590 018



INTERNSHIP REPORT

ON

"VASAVI MEDICALS WEBSITE - FRONT END DEVELOPMENT"

Submitted in partial fulfillment of the requirements for the award of the degree

BACHELOR OF ENGINEERING

in

INFORMATION SCIENCE AND ENGINEERING

Submitted by:

SATYABRATA CHAKRABORTY

1MV19IS050

Internship carried out at

Compsoft Technologies
BENGALURU, 560010

Under the guidance of:

Mr. Vitesh M
Assistant Professor,
Dept of ISE, Sir MVIT
Bangaluru-562157

Mr. Nitin. K. S
Project Manager
Compsoft Technologies
Bangaluru-560010



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BENGALURU-562157

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING



CERTIFICATE

This is to certify that SATYABRATA CHAKRABORTY (IMV19IS050), a bonafide student of Sir M. Visvesvaraya Institute of Technology, Bengaluru has satisfactorily completed Industrial training from Compsoft technologies in partial fulfillment of the requirements as prescribed by the VTU for the award of Bachelor of Engineering in Information Science and Engineering and submitted this report during the academic year 2022 - 2023.

Name & Signature of
Internship Coordinator

[Signature]
Mr. Viteshi M

Assistant Professor

Dept of ISE

Signature of the Guide

[Signature]
Mr. Raghav

Associate Professor

Dept. of ISE

Signature of HOD

[Signature]
Dr. G. C. Bhannu
Professor

Professor & HOD

Dept of ISE

Signature of Principal

[Signature]
Prof. Rakesh S.G.

Principal

Sir MVIT, Bengaluru

External Viva

Name of the Examiner

Signature with Date

1.

.....

2.

.....

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CERTIFICATE FROM THE INDUSTRY



Compsoft Technologies
Providing a Complete Suite of IT Solutions

CERTIFICATE OF INTERNSHIP

This is to certify that Satyabrata Chakraborty whose USN is 1MV19IS050, has completed their Full Stack Web Development Internship organised and handled by Compsoft Technologies from 23rd August, 2022 to 27th September, 2022.

The person to whom this certificate is addressed to has worked on a project titled Template Website for a Drug Store. This project was aimed at creating fully-fledged functional web template(s) for a client of ours. As part of the project, they designed functional web pages, used databases to collect, store, and sort data, by understanding the design briefs and client specifications that were provided in the project proposal.

During the course of the Internship, they demonstrated good design skills with a self-motivated attitude to learning new things. Their performance exceeded expectations and was able to complete the project successfully on time.

To verify this certificate, [CLICK HERE](https://www.compsofttechnologies.com)



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services@compsofttechnologies.com

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

ACKNOWLEDGEMENT

I cannot express enough of my sincere gratitude to Compsoft Technologies for providing me the opportunity and the resources to work under them on their company's project and for providing me their invaluable help when I found myself in a spot of bother. This internship consumed a huge amount of work, research and dedication. Still, implementation would not have been possible if I did not have the support of many individuals. Therefore, I would like to extend my sincere gratitude to all of them. First of all, I am thankful to my Principal Dr. S. G. RAKESH for providing me with all the necessary permissions to work on the internship. I am also grateful to Dr. G. C. Bhanu Prakash, Head of Department, Information Science and Engineering, for provision of expertise, and logistical support during the course of the internship. I would also like to thank the internal guide Mr. Raghav Information Science and Engineering for always being there to clarify my queries and give me valuable suggestions. Nevertheless, I express my gratitude towards my family and friends for their kind cooperation and encouragement which helped me in the completion of this internship successfully.

NAME: SATYABRATA CHAKRABORTY
USN: JMV19IS050

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

DECLARATION

I, **SATYABRATA CHAKRABORTY**, final year student of ISE, Sir M. Visvesvaraya Institute of Technology-562157, declare that the Internship has been successfully completed, in **COMPSOFT TECHNOLOGIES**. This report is submitted in partial fulfillment of the requirements for award of Bachelor Degree in **INFORMATION SCIENCE AND ENGINEERING**, during the academic year 2022-2023.

Date : 12-04-2023

Place : Bengaluru

USN : 1MV19IS050

NAME : SATYABRATA CHAKRABORTY

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DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

CHAPTER I INTRODUCTION

1.1 About the Company

Compsoft Technologies Pvt. Ltd. is a Technology Organization providing solutions for all web design and development, MYSQL, PYTHON Programming, HTML, CSS, ASP.NET and LINQ. Meeting the ever-increasing automation requirements, Compsoft Technology Pvt.Ltd. Specialize in ERP, Connectivity, SEO Services, and Conference Management, effective web promotion and tailor-made software products, designing solutions best suiting client's requirements. The organization where they have a right mix of professionals as a stake holder to help and serve our clients with best of our capability and with at par industry standards. They have young, enthusiastic, passionate and creative Professionals to develop technological innovations in the field of Mobile technologies, Web applications as well as Business and Enterprise solution. Motto of the organization is to "Collaborate with our clients to provide them with best technological solution hence creating Good Present and Better Future for client which will bring a cascading a positive effect in their business shape as well". Providing a complete suite of technical solutions is not just our tag line, it is our vision for clients.

1.2. Vision

"With the Right Software, Service and Analytics, great things can happen"

1.3. Mission

"To empower businesses to achieve their full potential through creative and strategic web design and development solutions that enhance their online presence, improve user experience and drive measurable results"

1.4. Objective

Main goal is to find smart ways of using technology that will help build a better tomorrow for everyone, everywhere and to offers a variety of advantages over traditional software licensing models and here at VCT tend to include the key features of SaaS in everything to build.

DEPARTMENT OF ISE, SIR MVIT

1

Prof. & HOD

Department of Information Science and Engg.
Sir M. Visvesvaraya Institute of Technology

Bangalore

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF MATHEMATICS

2.3.1: STUDENT CENTRIC LEARNING METHODS

*Lab Component
of
First Semester Engineering Mathematics*

as prescribed by Visvesvaraya Technological University, Belagavi

Compiled by:

Dr. Ramananda H. S.
St Joseph Engineering College,
Mangaluru, INDIA.

Dr. K. Sushan Bairy
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AMC Engineering college,
Bannerghatta Road, Bengaluru, INDIA.

Contents

1. Introduction

I Basics of Python

II Programming Structure

Lab 1. 2D-Plots of Cartesian and Polar Curves

Lab 2. Finding Angle Between Two Polar Curves, Curvature and Radius of Curvature

Lab 3. Finding Partial Derivatives and Jacobian

Lab 4. Taylor Series Expansion and L'Hospital's Rule

Lab 5. Solution of First Order Differential Equations and Plotting the Solution Curve

Lab 8. Numerical Solution of System of Equations, Test for Consistency and Graphical Representation of the Solution.

Lab 9. Solution of Linear Equations by Gauss-Seidel Method

Lab 10. Compute Eigen Value and Corresponding Eigen Vectors, Find the Dominant Eigen Value and Corresponding Eigen Vector by Rayleigh Power Method.

Computer Science and Engineering Stream

Lab 6. Finding GCD Using Euclid's Algorithm

Lab 7. Solve Linear Congruence of the Form $ax \equiv b(mod n)$

Electrical & Electronics Engineering Stream

Lab 6. Programme to Compute Area, Volume and Center of Gravity

Lab 7. Evaluation of Improper Integrals

Mechanical & Civil Engineering Stream

Lab 6. Solution of Second Order Ordinary Differential Equation and Plotting the Solution Curve

Lab 7. Solution of Differential Equation of Oscillations of Spring with Various Load

Instructions and method of evaluation

1. In each Lab student have to show the record of previous Lab.
2. Each Lab will be evaluated for 15 marks and finally average will be taken for 15 marks.
3. Viva questions shall be asked in labs and attendance also can be considered for everyday Lab evaluation.
4. Tests shall be considered for 5 marks and final Lab assessment is for 20 marks.
5. Student has to score minimum 8 marks out of 20 to pass Lab component.

I. Introduction to PYTHON

https://drive.google.com/file/d/1gVG2IJ8BIjhYDwDx6jWJns59h9dG0GVi/view?usp=share_link

II. Programming Structures

Conditional structure

What is conditioning in Python?

- Based on certain conditions, the flow of execution of the program is determined using proper syntax.
- Often called decision-making statements in Python.

How to use if conditions?

- if statement — for implementing *one-way branching*
- if..else statements —for implementing *two-way branching*
- nested if statements —for implementing *multiple branching*
- if-elif ladder — for implementing *multiple branching*

```
#Syntax:
```

```
if condition:
    statements
```

```
# Check if the given number is positive
a=int(input("Enter an integer: "))
if a>0:
    print("Entered value is positive")
```

```
Enter an integer: 5
Entered value is positive
```

```
# Syntax:
# if condition:
#     statements 1
# else:
#     statements 2

# If condition is True- statements 1 will be executed
# otherwise - statements 2 will be executed

a=int(input("Enter an integer: "))
if a>0:
```

```
    print("Number entered is positive")
else:
    print("Number entered is negative")
```

Enter an integer: -5
Number entered is negative

```
# Syntax:
# if condition 1:
#     statements 1
# elif condition 2:
#     statements 2
# elif condition 3:
#     statements 3
# else:
#     statements 4

# If condition 1 is True - Statements 1 will be executed.
# else if condition 2 is True - Statements 2 will be executed and so on

# If any of the conditions is not True then statements in else block is
    executed.

# Example:

perc=float(input("Enter the percentage of marks obtained by a student:"
                ))
if perc >= 75:
    print(perc, ' % - Grade: Distinction')
elif perc >= 60:
    print(perc, ' % - Grade: First class')
elif perc >=50:
    print(perc, ' % - Grade: Second class')
else:
    print(perc, ' % - Grade: Fail')
```

Enter the percentage of marks obtained by a student:65
65.0 % - Grade: First class

```
# To check if a number is divisible by 7
num1=int(input("Enter a number:"))
if (num1%7==0):
    print("Divisible by 7")
else :
    print("The given number is not divisible by 7")
```

Enter a number:45
The given number is not divisible by 7


```

# Conversion Celsius to Fahrenheit and vice-versa:
def print_menu():
    print("1. Celsius to Fahrenheit")
    print("2. Fahrenheit to Celsius")

def Far():
    c=float(input("Enter Temperature in Celsius: "))
    f=c*(9/5)+32
    print("Temperature in Fahrenheit: {0:0.2f}".format(f))

def Cel():
    f=float(input("Enter Temperature in Fahrenheit: "))
    c=(f-32)*(5/9)
    print("Temperature in Celsius: {0:0.2f}".format(c))

print_menu()
choice=input("Which conversion would you like: ")
if (choice=='1'):
    Far()
elif (choice=='2'):
    Cel()
else :print("INVALID")

```

```

1. Celsius to Fahrenheit
2. Fahrenheit to Celsius
Which conversion would you like: 1
Enter Temperature in Celsius: 34
Temperature in Fahrenheit: 93.20

```

Control flow (Loops)

Loop types:

while loop

- Repeats a statement or group of statements while a given condition is TRUE. It tests the condition before executing the loop body.

for loop

- Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.

nested loops

- You can use one or more loop inside any another while, for or do..while loop.

1. While loop

- Is used to execute a block of statements repeatedly until a given condition is satisfied.
- When the condition becomes false, the line immediately after the loop in the program is executed
- Syntax:

```
while expression:  
    statement(s)
```

```
# Fibonacci series:  
# the sum of two elements defines the next  
a, b = 0, 1          #First step :a=0;b=1  second step:a=1;b=1+0  
while a < 10:  
    a,b=b,a+b  
    print(a)
```

```
1  
1  
2  
3  
5  
8  
13
```

```
# Print multiplication table  
n=int(input("Enter the number: "))  
i=1  
while(i<11):  
    print(n, 'x', i, '=', n*i)  
    i=i+1
```

Enter the number: 45

```
45 x 1 = 45  
45 x 2 = 90  
45 x 3 = 135  
45 x 4 = 180  
45 x 5 = 225  
45 x 6 = 270  
45 x 7 = 315  
45 x 8 = 360  
45 x 9 = 405  
45 x 10 = 450
```

break statement

- It terminates the current loop and resumes execution at the next statement.
- The most common use for break is when some external condition is triggered requiring a hasty exit from a loop.
- The break statement can be used in both while and for loops.
- If you are using nested loops, the break statement stops the execution of the innermost loop and start executing the next line of code after the block.

```
# Use of break statement
i=1
while i<6:
    print(i)
    if i==3:
        break
    i+=1
```

1
2
3

Continue statement

- The continue statement rejects all the remaining statements in the current iteration of the loop and moves the control back to the top of the loop.
- The continue statement can be used in both while and for loops.

```
i=0
while i<6:
    i+=1
    if i==3:
        continue
    print(i)
```

1
2
4
5
6

2. for loop

- are used for sequential traversal
- it falls under the category of definite iteration
- also used to access elements from a container (for example list, string, tuple) using built-in function range()
- Syntax:

```
for variable_name in sequence :  
    statement_1  
    statement_2  
    ....
```

The range() function

Syntax:

- **range(a)** : Generates a sequence of numbers from 0 to a, excluding a, incrementing by 1.
- **range(a,b)**: Generates a sequence of numbers from a to b excluding b, incrementing by 1.
- **range(a,b,c)**: Generates a sequence of numbers from a to b excluding b, incrementing by c.

```
#Print numbers from 101 to 130 with a step length 2 excluding 130.  
for i in range(101,130,2):  
    print(i)
```

```
101  
103  
105  
107  
109  
111  
113  
115  
117  
119  
121  
123  
125  
127  
129
```

One can type the following examples and observe the outputs.

```
# Sum of first n natural numbers
sum=0
n=int(input("Enter n: "))
for i in range(1,n+1):    # i=1, sum=1; i=2, sum=3; i=4, sum=7, ....
    sum=sum+i
print("Sum of first ",n,"natural numbers = ",sum)
```

```
# Multiplication table
n=int(input("Enter the number"))
for i in range(1,11):
    print(n,'x',i,'=',n*i)
```

```
# printing the elements of a list
fruits=['apple', 'banana','cherry','orange']
for x in fruits:
    print(x)
```

apple
banana
cherry
orange

Exercise:

1. Finding the factors of a number using for loop.
2. Check the given number is prime or not.
3. Find largest of three numbers.
4. Write a program to print even numbers between 25 and 45.
5. Write a program to print all numbers divisible by 3 between 55 and 75.

*Lab Component
of
Second Semester Engineering Mathematics*

as prescribed by Visvesvaraya Technological University, Belagavi



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Message from BOS Chair

Dear Readers,

Welcome to the world of mathematics brought to life through the power of Python! In your hands, you hold a unique manual that combines the elegance of mathematics with the versatility of programming. Prepare to embark on a captivating journey where the realm of numbers, algorithms, and problem-solving converge.

This mathematics lab manual, infused with Python, is your gateway to experiencing mathematics in a dynamic and interactive way. By integrating programming into the study of mathematics, we aim to inspire you to explore, experiment, and develop a deep understanding of mathematical concepts through hands-on coding activities.

Python, a powerful and user-friendly programming language, serves as our trusty companion throughout this manual. It enables us to go beyond pen-and-paper calculations, unleashing the potential to solve complex problems, visualize mathematical concepts, and uncover patterns through the magic of coding. As you progress through the chapters, you will witness how Python becomes a bridge between abstract mathematical ideas and concrete computational implementations.

Inside these pages, you will embark on a variety of coding adventures that will challenge your logical thinking, enhance your problem-solving skills, and ignite your creativity. From building algorithms to solve equations, to simulating mathematical models, to analyzing data sets, each activity has been carefully crafted to reinforce fundamental mathematical principles while simultaneously developing your proficiency in Python.

Remember, programming is a skill that grows with practice. Don't be discouraged by the occasional hurdle or setback. Embrace the challenges as opportunities to learn, adapt, and improve. The exercises and examples provided in this manual will guide you through the intricacies of Python, gradually expanding your knowledge and confidence as you progress.

We extend our heartfelt appreciation to the authors, educators, and programmers who have contributed their expertise and passion to create this invaluable resource. Their dedication ensures that you have in your hands a manual that will equip you with the skills and knowledge to unravel the mysteries of mathematics using Python.

So, dear readers, let this mathematics lab manual with Python be your guide as you embark on a thrilling voyage of exploration and discovery. May it inspire you to develop a deep appreciation for the beauty of mathematics, the artistry of programming, and the infinite possibilities that arise when these two worlds intertwine.

Take hold of your imagination, harness the power of Python, and delve into the captivating world of mathematics like never before. Prepare to witness the magic of algorithms, to unravel the secrets of mathematical patterns, and to develop a lifelong love for the boundless synergy of mathematics and programming.

Wishing you a remarkable journey filled with mathematical enlightenment and Pythonic adventures!

I am very much thankful to the authors of this lab manual, Dr. K. Sushan Bairy, REVA University, Bengaluru, Dr. Ramananda H. S., St Joseph Engineering College, Mangaluru, Dr. Smita S. Nagouda, Christ(Deemed to be University), Bengaluru, Dr. Chandra Shekara G., BMS College of Engineering, Bengaluru, Dr. Madhukar Krishnamurthy, BMS College of Engineering, Bengaluru, Mr. Sonam Kumar, AMC Engineering

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I am very much thankful to Dr. Vidyashankar S. Vice Chancellor VTU, Dr. Rangaswamy B E, Registrar VTU, Dr. T Srinivasa, Registrar Evaluation VTU, Dr. Sadashive Gowda, Dean Academic VTU, Dr. Sadashiv Halbhavi, Special officer VTU, All the BOS members, Basic Science & Humanities for their guidance, support and encouragement for bringing out this manual.

Dr Suresha M

Chairman Board of Studies in Basic Sciences & Humanities

Instructions and method of evaluation

1. In each Lab student have to show the record of previous Lab.
2. Each Lab will be evaluated for 15 marks and finally average will be taken for 15 marks.
3. Viva questions shall be asked in labs and attendance also can be considered for everyday Lab evaluation.
4. Tests shall be considered for 5 marks and final Lab assessment is for 20 marks.
5. Student has to score minimum 8 marks out of 20 to pass Lab component.

Contents: Electrical & Electronics Engineering Stream

- Lab 1. Finding gradient, divergent, curl and their geometrical interpretation and Verification of Green's theorem
- Lab 2. Computation of basis and dimension for a vector space and graphical representation of linear transformation
- Lab 3. Visualization in time and frequency domain of standard functions
- Lab 4. Computing Laplace transform and inverse Laplace transform of standard functions
- Lab 5. Laplace transform of convolution of two functions
- Lab 6. Solution of algebraic and transcendental equation by Regula-Falsi and Newton-Raphson method
- Lab 7. Interpolation /Extrapolation using Newton's forward and backward difference formula
- Lab 8. Computation of area under the curve using Trapezoidal, Simpson's $\left(\frac{1}{3}\right)^{\text{rd}}$ and Simpsons $\left(\frac{3}{8}\right)^{\text{th}}$ rule
- Lab 9. Solution of ODE of first order and first degree by Taylor's series and Modified Euler's method
- Lab 10. Solution of ODE of first order and first degree by Runge-Kutta 4th order method and Milne's predictor and corrector method

LAB 1: Finding gradient, divergent, curl and their geometrical interpretation and Verification of Green's theorem

1.1 Objectives:

Use python

1. to find the gradient of a given scalar function.
2. to find find divergence and curl of a vector function.
3. to evaluate integrals using Green's theorem.

1.2 Method I:

1. To find gradient of $\phi = x^2y + 2xz - 4$.

```
#To find gradient of scalar point function.
from sympy.vector import *
from sympy import symbols
N=CoordSys3D('N') #Setting the coordinate system
x,y,z=symbols('x y z')
A=N.x**2*N.y+2*N.x*N.z-4 #Variables x,y,z to be used with coordinate
                           system N

delop=Del() #Del operator
display(delop(A)) #Del operator applied to A
gradA=gradient(A) #Gradient function is used
print(f"\n Gradient of {A} is \n")
display(gradA)
```

$$\left(\frac{\partial}{\partial x_N} (x_N^2 y_N + 2x_N z_N - 4) \right) \hat{i}_N + \left(\frac{\partial}{\partial y_N} (x_N^2 y_N + 2x_N z_N - 4) \right) \hat{j}_N + \left(\frac{\partial}{\partial z_N} (x_N^2 y_N + 2x_N z_N - 4) \right) \hat{k}_N$$

Gradient of $N.x^{**2}*N.y + 2*N.x*N.z - 4$ is

$$(2x_N y_N + 2z_N) \hat{i}_N + (x_N^2) \hat{j}_N + (2x_N) \hat{k}_N$$

2. To find divergence of $\vec{F} = x^2 y z \hat{i} + y^2 z x \hat{j} + z^2 x y \hat{k}$

```
#To find divergence of a vector point function
from sympy.vector import *
from sympy import symbols
N=CoordSys3D('N')
x,y,z=symbols('x y z')
A=N.x**2*N.y*N.z*N.i+N.y**2*N.z*N.x*N.j+N.z**2*N.x*N.y*N.k
delop=Del()
divA=delop.dot(A)
display(divA)

print(f"\n Divergence of {A} is \n")
```

```
display(divergence(A))
```

$$\frac{\partial}{\partial z_N} x_N y_N z_N^2 + \frac{\partial}{\partial y_N} x_N y_N^2 z_N + \frac{\partial}{\partial x_N} x_N^2 y_N z_N$$

Divergence of $N.x^{**2}*N.y*N.z*N.i + N.x*N.y^{**2}*N.z*N.j + N.x*N.y*N.z^{**2}*N.k$ is

$$6x_N y_N z_N$$

3. To find curl of $\vec{F} = x^2 y z \hat{i} + y^2 z x \hat{j} + z^2 x y \hat{k}$

```
#To find curl of a vector point function
from sympy.vector import *
from sympy import symbols
N=CoordSys3D('N')
x,y,z=symbols('x y z')
A=N.x**2*N.y*N.z*N.i+N.y**2*N.z*N.x*N.j+N.z**2*N.x*N.y*N.k
delop=Del()
curlA=delop.cross(A)
display(curlA)

print(f"\n Curl of {A} is \n")
display(curl(A))
```

$$\left(\frac{\partial}{\partial y_N} x_N y_N z_N^2 - \frac{\partial}{\partial z_N} x_N y_N^2 z_N \right) \hat{i}_N + \left(-\frac{\partial}{\partial x_N} x_N y_N z_N^2 + \frac{\partial}{\partial z_N} x_N^2 y_N z_N \right) \hat{j}_N + \left(\frac{\partial}{\partial x_N} x_N y_N^2 z_N - \frac{\partial}{\partial y_N} x_N^2 y_N z_N \right) \hat{k}_N$$

Curl of $N.x^{**2}*N.y*N.z*N.i + N.x*N.y^{**2}*N.z*N.j + N.x*N.y*N.z^{**2}*N.k$ is

$$(-x_N y_N^2 + x_N z_N^2) \hat{i}_N + (x_N^2 y_N - y_N z_N^2) \hat{j}_N + (-x_N^2 z_N + y_N^2 z_N) \hat{k}_N$$

1.3 Method II:

1. To find gradient of $\phi = x^2 y z$.

```
#To find gradient of a scalar point function x^2yz
from sympy.physics.vector import *
from sympy import var, pprint
var('x,y,z')
v=ReferenceFrame('v')
F=v[0]**2*v[1]*v[2]
G=gradient(F,v)
F=F.subs([(v[0],x),(v[1],y),(v[2],z)])
print("Given scalar function F=")
display(F)
G=G.subs([(v[0],x),(v[1],y),(v[2],z)])
print("\n Gradient of F=")
display(G)
```


Given scalar function F=

$$x^2yz$$

Gradient of F=

$$2xyz\hat{\mathbf{v}}_x + x^2z\hat{\mathbf{v}}_y + x^2y\hat{\mathbf{v}}_z$$

2. To find divergence of $\vec{F} = x^2y\hat{i} + yz^2\hat{j} + x^2z\hat{k}$.

```
#To find divergence of F=x^2yi+yz^2j+x^2zk
from sympy.physics.vector import *
from sympy import var
var('x,y,z')
v=ReferenceFrame('v')
F=v[0]**2*v[1]*v.x+v[1]*v[2]**2*v.y+v[0]**2*v[2]*v.z
G=divergence(F,v)
F=F.subs([(v[0],x),(v[1],y),(v[2],z)])
print("Given vector point function is ")
display(F)

G=G.subs([(v[0],x),(v[1],y),(v[2],z)])
print("Divergence of F=")
display(G)
```

Given vector point function is

$$x^2y\hat{\mathbf{v}}_x + yz^2\hat{\mathbf{v}}_y + x^2z\hat{\mathbf{v}}_z$$

Divergence of F=

$$x^2 + 2xy + z^2$$

3. To find curl of $\vec{F} = xy^2\hat{i} + 2x^2yz\hat{j} - 3yz^2\hat{k}$

```
#To find curl of F=xy^2i+2x^2yzj-3yz^2k
from sympy.physics.vector import *
from sympy import var
var('x,y,z')
v=ReferenceFrame('v')
F=v[0]*v[1]**2*v.x+2*v[0]**2*v[1]*v[2]*v.y-3*v[1]*v[2]**2*v.z
G=curl(F,v)
F=F.subs([(v[0],x),(v[1],y),(v[2],z)])
print("Given vector point function is ")
display(F)

G=G.subs([(v[0],x),(v[1],y),(v[2],z)])
print("curl of F=")
display(G)
```

Given vector point function is

$$xy^2\hat{\mathbf{v}}_x + 2x^2yz\hat{\mathbf{v}}_y - 3yz^2\hat{\mathbf{v}}_z$$

curl of F=

$$(-2x^2y - 3z^2)\hat{\mathbf{v}}_x + (4xyz - 2xy)\hat{\mathbf{v}}_z$$

1.4 Green's theorem

Statement of Green's theorem in the plane: If $P(x, y)$ and $Q(x, y)$ be two continuous functions having continuous partial derivatives in a region R of the xy -plane, bounded by a simple closed curve C , then

$$\oint (Pdx + Qdy) = \int \int_R \left(\frac{\partial Q}{\partial x} - \frac{\partial P}{\partial y} \right) dxdy.$$

1. Using Green's theorem, evaluate $\oint_c [(x + 2y)dx + (x - 2y)dy]$, where c is the region bounded by coordinate axes and the line $x = 1$ and $y = 1$.

```
from sympy import *
var('x,y')
p=x+2*y
q=x-2*y
f=diff(q,x)-diff(p,y)
soln=integrate(f,[x,0,1],[y,0,1])
print("I=",soln)
```

I= -1

2. Using Green's theorem, evaluate $\oint_c [(xy + y^2)dx + x^2dy]$, where c is the closed curve bounded by $y = x$ and $y = x^2$.

```
from sympy import *
var('x,y')
p=x*y+y**2
q=x**2
f=diff(q,x)-diff(p,y)
soln=integrate(f,[y,x**2,x],[x,0,1])
print("I=",soln)
```

I= -1/20

1.5 Exercise:

1. If $u = x + y + z$, $v = x^2 + y^2 + z^2$, $w = yz + zx + xy$, find $\text{grad}u$, $\text{grad}v$ and $\text{grad}w$.
Ans: $\hat{i} + \hat{j} + \hat{k}$, $2(x\hat{i} + y\hat{j} + z\hat{k})$, $(y + z)\hat{i} + (z + x)\hat{j} + (x + y)\hat{k}$.
2. Evaluate $\text{div}F$ and $\text{curl}F$ at the point $(1, 2, 3)$, given that $\vec{F} = x^2yz\hat{i} + xy^2z\hat{j} + xyz^2\hat{k}$.
Ans: $6xyz$, $x(z^2 - y^2)\hat{i} + y(x^2 - z^2)\hat{j} + z(y^2 - x^2)\hat{k}$.
3. Prove that the vector $(yz - x^2)\hat{i} + (4y - z^2x)\hat{j} + (2xz - 4z)\hat{k}$ is solenoidal.
4. Find the vector normal to the surface $xy^3z^2 = 4$ at the point $(-1, -1, 2)$.
Ans: $-4\hat{i} - 12\hat{j} + 4\hat{k}$.

5. If $\vec{R} = x\hat{i} + y\hat{j} + z\hat{k}$, show that (i) $\nabla \cdot \vec{R} = 3$, (ii) $\nabla \times \vec{R} = 0$.
6. Using Green's theorem, evaluate $\oint_c [(3x + 4y)dx + (2x - 3y)dy]$, where c is the boundary of the circle $x^2 + y^2 = 4$.

Ans: -8π

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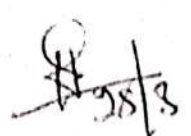
ACCREDITED BY NBA

Laboratory Certificate



This is to certify that Mr / Miss.....Divya.K.H.....of.....I.....
semester bearing U S N No.....43.....of the department
of.....~~EEE~~ Mathematics.....has satisfactorily completed the course of
experiments, prescribed by Visveshwaraiah Technological University for the
Engineering Mathematics - I course in the.....PYTHON.....Laboratory of
this college in the year 20..22.. - 20..23..

Subject Code		
Particulars	Maximum Marks	Marks Obtd.
Record/Expt.		
Test		
Total I.A. in Figs.		
In Words :		


Signature of the Staff in charge


Signature of the H.O.D.
Dr. S. ~~K. V. S.~~ K. V. S.
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C O N T E N T S

Serial No.	Date	Title of the Experiment	Page No.	Marks
1.		2D Plots of Cartesian and Polar curves	1-7	10 8
2.		Finding Angle between two polar curves, Curvature and Radius of Curvature	8-13	10 8
3.		Find the Partial derivatives and Jacobins of functions of several variables	14-19	10 8
4.		Applications of Maxima and Minima of functions of two variables, Taylors series and L-Hospital's rule.	21-31	10 20/03/23
5.		Solution of first order differential equation and plotting the solution curves	32-43	10 20/03/23
6.		Numerical solutions of system of equation, test for consistency and graphical representation of the solution	44-49	10 28/3
7.		Solution of system of linear equations of Gauss-seidel method	50-53	10 28/3

C O N T E N T S

[illegible]

LAB-01

2D Plots of Cartesian and Polar curves

Objectives:

- To plot cartesian curves
- To plot polar curves
- To plot implicit functions

Implicit function

1. Circle: $x^2 + y^2 = 4$

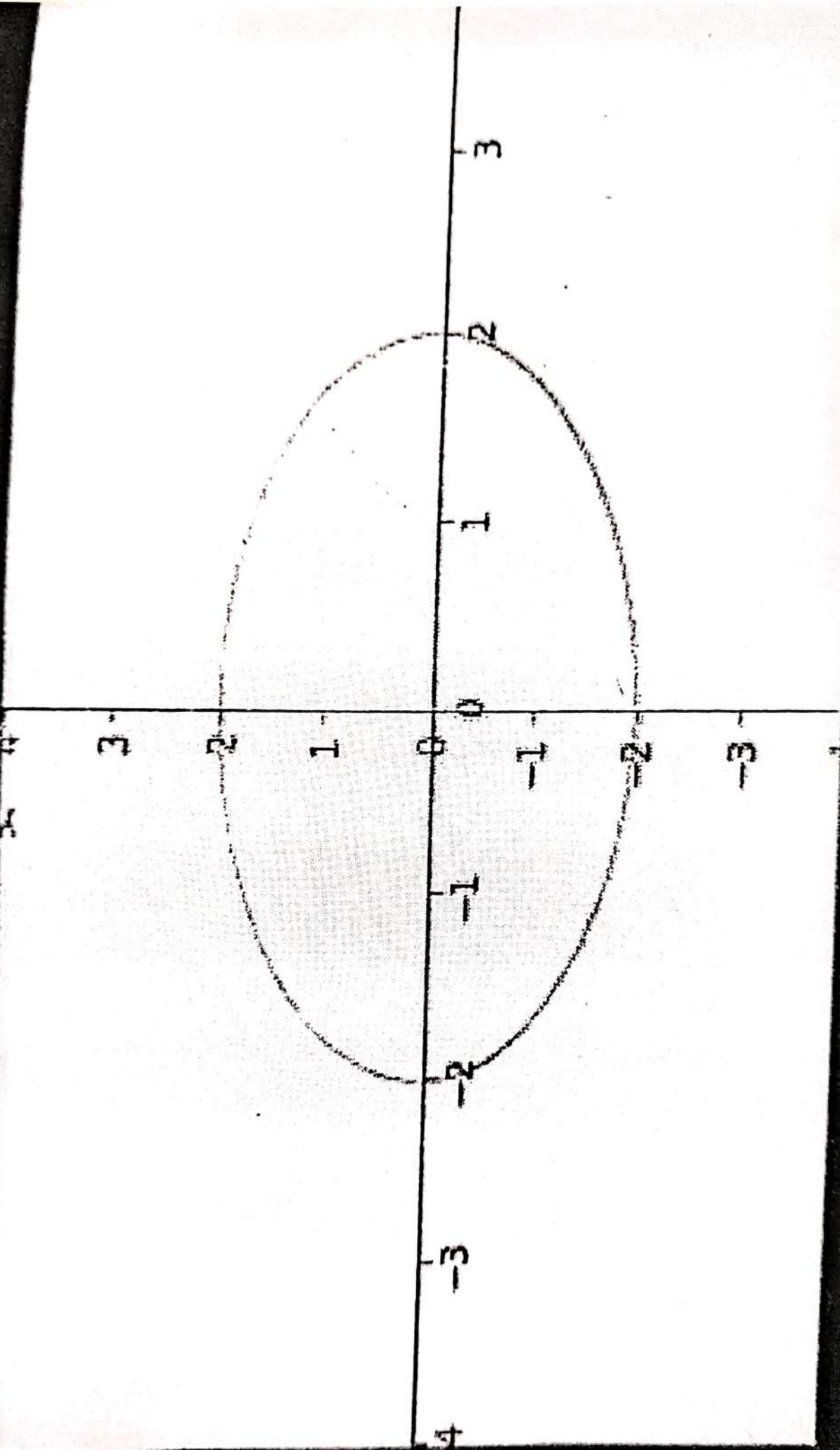
from sympy import plot_implicit, symbols, Eq

$x, y = \text{symbols}('x y')$

$p = \text{plot_implicit}(\text{Eq}(x^{**2} + y^{**2}, 4),$

$(x, -4, 4), (y, -4, 4), \text{title} = 'circle':$

$x^2 + y^2 = 4')$



Polar curves

Circle

1 $p=r$

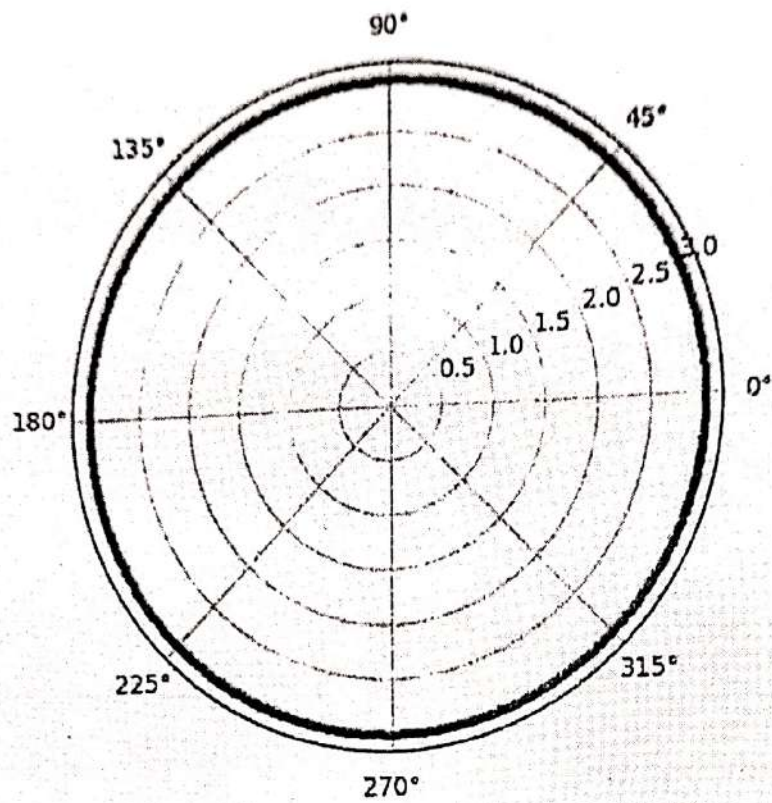
```
import numpy as np
import matplotlib.pyplot as plt
plt.axes (projection = 'polar')
r=3
```

```
rads = np.arange (0, (2*np.pi), 0.01)
```

```
for i in rads:
```

```
    plt.polar (i, r, 'g')
```

```
    plt.show()
```

Parametric Equation

1. Circle: $x = a \cos(\theta)$; $y = a \sin(\theta)$

```
import numpy as np
```

```
import matplotlib.pyplot as plt
```

```
def circle(r):
```

```
    x = [ ]
```

```
    y = [ ]
```

```
    for theta in np.linspace(-2*np.pi, 2*np.pi, 100):
```

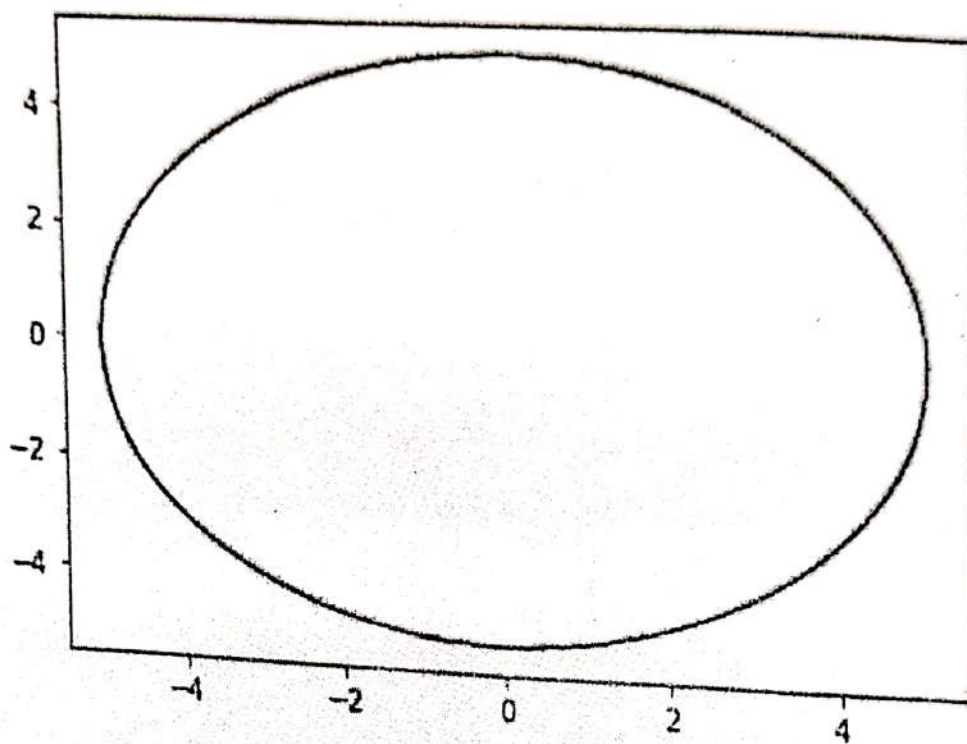
```
        x.append(r*np.cos(theta))
```

```
        y.append(r*np.sin(theta))
```

```
    plt.plot(x,y)
```

```
    plt.show()
```

```
circle(5)
```

LAB-02

Finding the angle between two polar curves, curvature and radius of curvature.

- 1 Find the angle between curves $r = 4(1 + \cos t)$ and $r = 5(1 - \cos t)$

» from sympy import *

$r, t = \text{symbols}('r, t')$

$r_1 = 4 * (1 + \cos(t))$

$r_2 = 5 * (1 - \cos(t))$

$dr_1 = \text{diff}(r_1, t)$

$dr_2 = \text{diff}(r_2, t)$

$t_1 = r_1 / dr_1$

$t_2 = r_2 / dr_2$

$q = \text{solve}(r_1 - r_2, t)$

$w_1 = t_1 \cdot \text{subs}(\{t: \text{float}(q[0])\})$

$w_2 = t_2 \cdot \text{subs}(\{t: \text{float}(q[0])\})$

$y_1 = a \cdot \tan(w_1)$

$y_2 = a \cdot \tan(w_2)$

$w = \text{abs}(y_1 - y_2)$

Print('Angle between curves in radians is
%.23f' % (w))

Output :

Angle between curves in radians is 1.571

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

2.3.1: STUDENT CENTRIC LEARNING METHODS

Internship Report on
**"ORGANIZATION STUDY SANTALUM CUST
DESIGNERS AND INTERIORS PVT LTD**

By
RUDRESH N
USN:1MV21BA079
Subject Code:20MBAIN307

Submitted to
**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELAGAVI**

In the partial fulfilment of the requirement for the award of the
degree of

MASTER OF BUSINESS ADMINISTRATION

Under the guidance of

INTERNAL GUID
Mrs. TANIA THOMAS
Assistant professor
Dept of MBA

EXTERNAL GUIDE
INCHARA GV
Senior manager
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Department of MBA

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
HUNUSAMARNAHALI,
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YELAHANKA, BANGALORE- 562157

2021-2023



INTERNSHIP CERTIFICATE

Date : 23/11/2022

This is to Certify that Mr. RUDRESH N Reg No: 1MV21BA079 of 2ND Semester MBA student at Sir M. Visvesvaraya Institute of Technology, Bangalore, has successfully completed the project work in the area of "ORGANISATION STUDY" at "SANTALUM CUSTOM DESIGNERS AND INTERIORS PVT LTD" Sulikunte, Bangalore. And he has completed the 1 Month Project work successfully and his project performance is satisfactory. This certificate is issued at the specific request of the student, who has collected the required information from us for the study purpose only.

We Santalum Custom Designers and Interiors wishes him for bright and successful future ahead.

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CERTIFICATE

This is to certify that **RUDRESH N** bearing USN: 1MV21BA079, is a bonafide student of Master of Business Administration course of **SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY (2021-2023)**, affiliated to Visvesvaraya Technological University, Belgaum. Internship report on "**SANTALUM CUSTOM DESIGNERS AND INTERIORS PVT LTD.**" is prepared by him/her in **Offline/ Freelance** under the guidance of **Mrs. TANIA THOMAS** in partial fulfillment of the requirements for the award of the degree of Master of Business Administration of Visvesvaraya Technological University, Belgaum Karnataka.

Signature of Internal Guide

Signature of HOD
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PRINCIPAL
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Sir M Visvesvaraya Institute of Technology
Krishnadevarayanagar, Hunsaranehalli
International Airport Road, Bangalore-562 157
BANGALORE-562157

External Viva Voce Examination

Name of the Examiners

1. RATNADHAR.
2. Rupali J.R

Affiliation

S-V-C-E. (VTU)

Signature of the Examiners

Sir MV IT

Internship Report on
SRI VISHNU HALLMARKING
By
RAGHAVENDRA PRASAD BOBBA

USN:1MV21BA069

Subject Code:20MBAIN307

Submitted to
VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
In the partial fulfilment of the requirement for the award of the degree of
MASTER OF BUSINESS ADMINISTRATION

Under the guidance of

INTERNAL GUIDE
Mrs. TANIA THOMAS
Assistant Professor, Dept.of MBA

EXTERNAL GUIDE
SUDHA RANI
HR Executive



Department of MBA
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
HUNUSAMARNAHALLI, INTERNATIONAL
AIRPORT ROAD, YELAHANKA,
BANGALORE- 562157
2021-2023



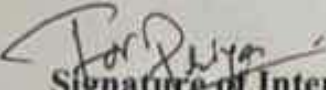
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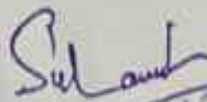
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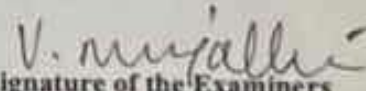

Signature of Internal Guide
Mrs. TANIA THOMAS
Associate professor
Dept of MBA

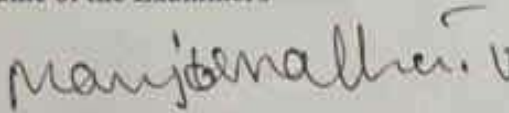
Signature of **HOD**

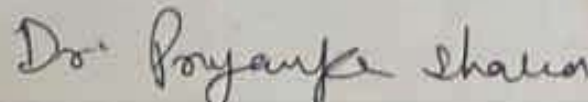

HEAD OF THE DEPARTMENT
Department of Management Studies
Principal Sir M Visvesvaraya Institute of Technology
Krishnadevaraya Road, Basavanahalli
International Airport Road, Bangalore-562 157

Name of the Examiners

Affiliation


Signature of the Examiners

1. 

2.  Sir MVIT



Sri Vishnu Hallmarking,
#41, 2nd Floor, 8th E main rd,
4th Block, Jayanagar Bengaluru,
Karnataka, 560037,

TO WHOM EVER IT MAY CONCERN

is to certify that Mr. Raghavendra Prasad Bobba USN- IMV21MB069 a student of Sri. M. Visvesvaraya Institute of Technology from Master of business Administration (MBA) has successfully completed his 4 weeks internship on ORGANISATION STUDY "at Sri Vishnu Hallmarking from 15/10/2022 to 26/11/2022.

has completed the above project to our satisfaction & our assessment of his is Good.

We wish him the very best in his future career.

Yours Sincerely

For Sri Vishnu Hallmarking Ltd



BIS Recognized, GST-29AAJCS9604G1ZZ

Contact-080-25100006, www.srivishnuhallmarkingbusiness.site

Internship Report on
“MAYUKA POWER PRODUCTS PRIVATE LIMITED”

By

VISHAL D A

USN: 1MV21BA106

Subject Code:20MBAIN307

Submitted to

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

In the partial fulfilment of the requirement for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION

Under the guidance of

INTERNAL GUIDE

Ms. Tania Thomas

Assistant professor

EXTERNAL GUIDE

Mr. NARENDRA

Manager



Department of MBA
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
HUNUSAMARNAHALLI, INTERNATIONAL AIRPORT ROAD,
YELAHANKA, BANGALORE- 562157

2021-2023



Date: 15th November 2022

CERTIFICATE

This is to certify that MR. VISHAL D A, bearing USN No:1MV21BA106,
Student of SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY,
Bangalore has successfully completed an "Organization Study",
from 15th October 2022 to 15th November 2022.

He has done this study under the guidance of Mr. Narendra

We wish him all the best for the in his future endeavors

Narendra
Authorized Signatory

Regd.Off.: #155/159, 1st Floor, 7th main, Sunkadakatte, Bangalore - 560 091

Phone : 080 – 23282232 E-mail : mayuka.power@yahoo.com



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

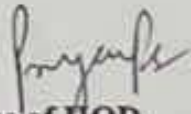
BANGALORE- 562157

DEPARTMENT OF MBA

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This is to certify that (VISHAL D A) bearing USN (IMV21BA106), is a bonafide student of Master of Business Administration course of **SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY** (Batch), affiliated to Visvesvaraya Technological University, Belgaum. Internship report on “(MAYUKA POWER PRODUCTS PRIVATE LIMITED)” is prepared by him in **Offline** under the guidance of (Mr. NARENDRA), in partial fulfillment of the requirements for the award of the degree of Master of Business Administration of Visvesvaraya Technological University, Belgaum Karnataka.


Signature of Internal Guide


Signature of HOD


PRINCIPAL
Signature of Principal
HEAD OF THE DEPARTMENT
Department of Management Studies
Sir M Visvesvaraya Institute of Technology
BANGALORE-562157
Krishnadevarayanagar, Hunsur, Maranahalli
International Airport Road, Bangalore-562 157
External Viva Voce Examination

Name of the Examiners

1. Dr. Ajitashubhai
2. Dr. P. Jayaraj

Affiliation

SUCE, VTU
SIR MVT

Signature of the Examiners



Internship Report on
**“ORGANIZATION STUDY AT INDIC EMS ELECTRONICS
PVT. LTD.”**

By
KARTHIK E
USN:1MV21BA035
Subject Code:20MBAIN307

Submitted to
**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
BELAGAVI**

In the partial fulfilment of the requirement for the award of the
degree of

MASTER OF BUSINESS ADMINISTRATION

Under the guidance of

INTERNAL GUID

Mrs. TANIA THOMAS
Assistant professor
Dept. of MBA

EXTERNAL GUIDE

Mr. RAGAVENDRA
Team leader in finance dept.
INDIC EMS Electronics pvt.ltd



Department of MBA

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
HUNUSAMARNAHALI,
INTERNATIONAL AIRPORT ROAD,
YELAHANKA, BANGALORE- 562157

2021-2023

Date: 21.11.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr, Karthik E (1MV21BA035) of Sir M. Visvesvaraya Institute of Technology. Has undergone internship at our Organization from 19.10.2022 to 18.11.2022. During the above Period. He has completed internship at INDIC EMS ELECTRONICS PVT LIMITED, Doddaballapur.

The conduct of the Student was found Satisfactory during the internship.

We wish him all the best for his future endeavours

For INDIC EMS ELECTRONICS PVT LTD.

Authorized signature.



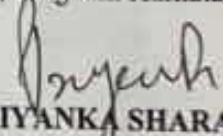


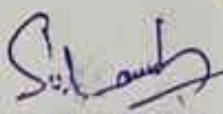
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BANGALORE- 562157
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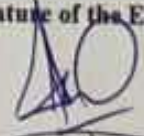
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Mrs. TANIA THOMAS
Assistant professor
Dept of MBA


DR. PRIYANKA SHARAM
Assistant professor & HOD
Dept of MBA


Prof. Prakash S. G.
Principal
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
Krishnadevarayanagar, Hunasamaranahalli
International Airport Road, Bangalore-562 157
External Viva Voce Examination

HEAD OF THE DEPARTMENT
Department of Management Studies
Sir M Visvesvaraya Institute of Technology
BANGALORE-562157

Name of the Examiners	Affiliation	Signature of the Examiners
1. Dr. Ajatashatruhal	SVCE	
2. Deepthi J R	Sir MVIT	

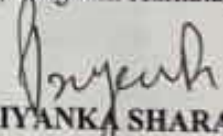


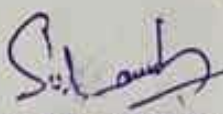
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BANGALORE- 562157
DEPARTMENT OF MBA

CERTIFICATE

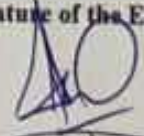
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Mrs. TANIA THOMAS
Assistant professor
Dept of MBA


DR. PRIYANKA SHARAM
Assistant professor & HOD
Dept of MBA


Prof. Prakash S. G.
Principal
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
Krishnadevarayanagar, Hunasamaranahalli
International Airport Road, Bangalore-562 157
External Viva Voce Examination

HEAD OF THE DEPARTMENT
Department of Management Studies
Sir M Visvesvaraya Institute of Technology
BANGALORE-562157

Name of the Examiners	Affiliation	Signature of the Examiners
1. Dr. Ajatashatruhal	SVCE	
2. Deepthi J R	Sir MVIT	

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

2.3.1: STUDENT CENTRIC LEARNING METHODS

1. Implement the search techniques of

- a. Linear Search**
- b. Binary Search.**

SOURCE CODE:-

```
/*Linear search and binary search*/
#include<stdio.h>
#include<stdlib.h>
#include<conio.h>
void linear_search(int[],int,int);
void bin_search(int[],int,int);
void bubble_sort(int[],int);
void main()
{
    int a[20],ch,key,i,n;
clrscr();
    printf("\n Enter the size of an array:");
    scanf("%d",&n);
    printf("\n Enter the %d elements:\n",n);
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    while(1)
    {
        printf("\n\n 1.Linear search \n");
        printf("2.Binary search \n");
        printf("3.Exit \n");
        printf("\n Enter your choice");
        scanf("%d",&ch);
        switch(ch)
        {
            case 1:
                printf("\n ***** Linear search *****");
                printf("\n \n elements of array are:\n");
                for(i=0;i<n;i++)
                printf("\t%d",a[i]);
                printf("\n \n Enter the key element:");
                scanf("%d",&key);
                linear_search(a,n,key);
                break;

            case 2:
```



```
        printf("\n ***** Binary search *****");
        printf("\n \n Enter the key element:");
        scanf("%d",&key);bubble_sort(a,n);
        printf("\n Elements in sorted form are");
        for(i=0;i<n;i++)
            printf("%d",a[i]);
        bin_search(a,n,key);
        break;

    case 3:
        exit(0);

    default:
        printf("Invalid choice");
        break;
    }
}

void linear_search(int a[],int n,int key)
{
    int i,flag=0;
    for(i=0;i<n;i++)
    {
        if(key==a[i])
        {
            flag=1;
            break;
        }
    }
    if(flag==1)
        printf("\n Key element %d found at position %d \n",key,i+1);
    else
        printf("\n key element not found in array \n");
}

void bin_search(int a[],int n,int key)
{
    int low,high,flag=0,mid;
    low=0;
    high=n-1;
    while(low<=high)
    {
        mid=(low+high)/2;
        if(key==a[mid])
        {
```

```
        flag=1;
        break;
    }
    else
        if(key<a[mid])
            high=mid-1;
        else
            if(key>a[mid])
                low=mid+1;
    }
    if(flag==1)
        printf("\n Key element %d found at position %d \n",key,mid+1);
    else
        printf("\n key element not found in array \n");
}
void bubble_sort(int a[],int n)
{
    int i,j,temp;
    for(i=0;i<n;i++)
    {
        for(j=0;j<(n-1-i);j++)
        {
            if(a[j]>a[j+1])
            {
                temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;
            }
        }
    }
}
```

OUTPUT:-

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
Enter the size of an array:5
Enter the 5 elements:
12 7 45 33 77

1.Linear search
2.Binary search
3.Exit

Enter your choice:1

***** Linear search *****

elements of array are:
12      7      45      33      77

Enter the key element:33
Key element 33 found at position 4

1.Linear search
2.Binary search
3.Exit

Enter your choice:_
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
12      7      45      33      77

Enter the key element:33
Key element 33 found at position 4

1.Linear search
2.Binary search
3.Exit

Enter your choice:2

***** Binary search *****

Enter the key element:45

Elements in sorted form are
7      12      33      45      77
Key element 45 found at position 4

1.Linear search
2.Binary search
3.Exit

Enter your choice:_
```


2. Write a C program to implement the following sorting algorithms using user defined functions.

a. Bubble sort (Ascending order)

b. Selection sort (Descending order)

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
void bubble_sort(int a[],int n);
void selection_sort(int a[],int n);
void main()
{
    int a[20],n,i;
    int choice;
    clrscr();
    while(1)
    {
        printf("**menu* \n 1-Bubble Sort \n 2-Selection Sort \n");
        printf("enter your choice \t");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1: printf("enter array limit");
                    scanf("%d",&n);
                    printf("enter array elements");
                    for(i=0;i<n;i++)
                    {
                        scanf("%d",&a[i]);
                    }
                    bubble_sort(a,n);
                    getch();
                    exit(0);
                    break;
            case 2: printf("enter array limit");
                    scanf("%d",&n);
                    printf("enter array elements");
                    for(i=0;i<n;i++)
                    {
                        scanf("%d",&a[i]);
                    }
                    selection_sort(a,n);
                    getch();
                    exit(0);
                    break;
            default:printf("enter correct choice \n");
        }
    }
}
```

```
}
void bubble_sort(int a[],int n)
{
    int i,j,temp;
    for(i=0;i<n-1;i++)
    {
        for(j=0;j<n-i-1;j++)
        {
            if(a[j] > a[j+1])
            {
                temp=a[j];
                a[j]=a[j+1];
                a[j+1]=temp;
            }
        }
    }
    printf("elements after sorting \n");
    for(i=0;i<n;i++)
    {
        printf("%d \n",a[i]);
    }
}

void selection_sort(int a[],int n)
{
    int i,j,temp,pos;
    for(i=0;i<n-1;i++)
    {
        pos=i;
        for(j=i+1;j<n;j++)
        {
            if(a[j]>a[pos])
            {
                pos=j;
            }
        }

        if(pos!=i)
        {
            temp=a[i];
            a[i]=a[pos];
            a[pos]=temp;
        }
    }
    printf("elements after sorting \n");
    for(i=0;i<n;i++)
    {
        printf("%d \n",a[i]);
    }
}
```

OUTPUT:

```
C:\Windows\system32\cmd.exe - tc
*menu*
1-Bubble Sort
2-Selection Sort
enter your choice
1
enter array limit
5
enter array elements
77
66
55
44
33
elements after sorting
33
44
55
66
77
```

```
C:\Windows\system32\cmd.exe - tc
*menu*
1-Bubble Sort
2-Selection Sort
enter your choice
2
enter array limit6
enter array elements
67
44
31
3
59
543
elements after sorting
543
67
59
44
31
3
-
```


3. Write a C Program implement STACK with the following operations

a. Push an Element on to Stack b. Pop an Element from Stack.

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
#include<stdlib.h>
#define MAX 5
struct stack
{
    int ar[MAX];
    int top;
};
void init(struct stack *st)
{
    st->top=-1;
}
void push(struct stack *st,int item)
{
    if(st->top==(MAX-1))
    {
        printf("\n stack overflow \n");
        return;
    }
    st->top++;
    st->ar[st->top]=item;
}
int pop(struct stack *st)
```

```
{    int num;

    if(st->top== -1)
    {

        printf("\n stack underflow \n");

        return NULL;

    }

    num=st->ar[st->top];

    st->top--;

    return num;

}

void display(struct stack *st)
{

    int i;

    for(i=st->top;i>=0;i--)

    {

        printf("\n %d",st->ar[i]);

    }

}

void main()
{

    int element,opt,val;

    struct stack stk;

    init(&stk);

    clrscr();

    while(1)

    {

        printf("\n Stack Primitive Operation");

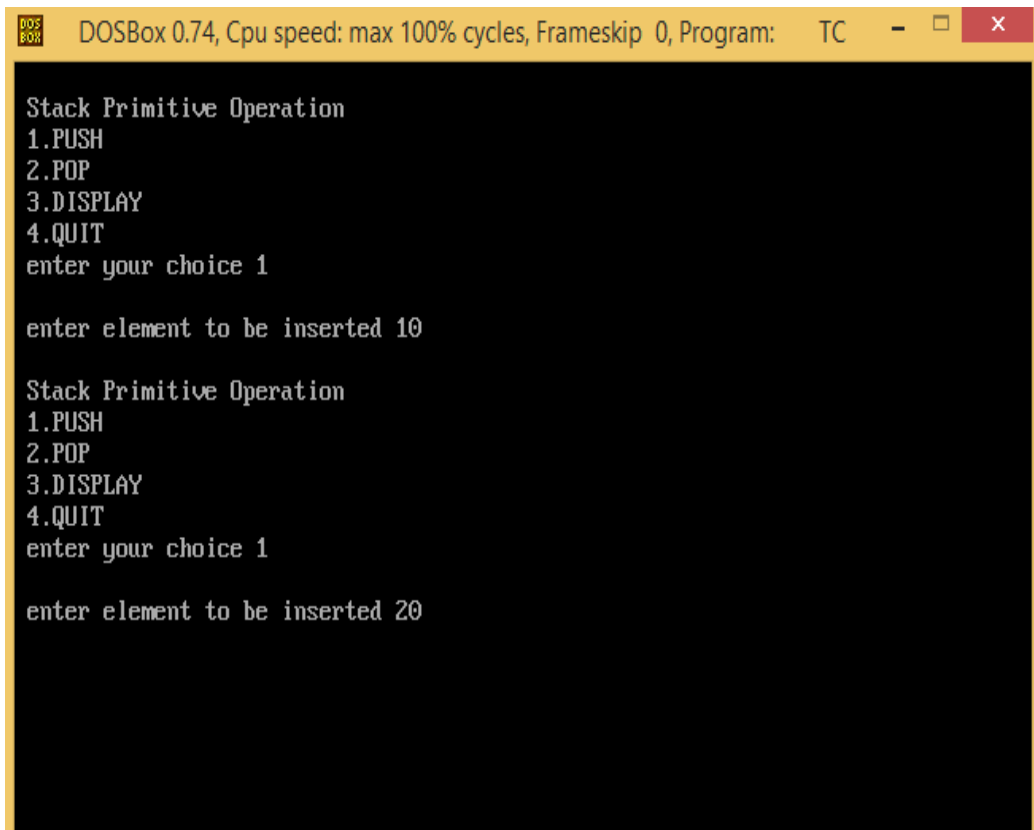
        printf("\n 1.PUSH");

        printf("\n 2.POP");
```

```
printf("\n 3.DISPLAY");
printf("\n 4.QUIT");
printf("\n enter your choice");
scanf("%d",&opt);
switch(opt)
{
    case 1:printf("\n enter element to be inserted");
            scanf("%d",&val);
            push(&stk,val);
            break;
    case 2: element=pop(&stk);
            printf("the deleted element from the stack is %d",element);
            break;
    case 3: printf("\n current stack elements are:");
            display(&stk);
            break;
    case 4: exit(0);

            default: printf("enter correct option");
}
getch();
}
```

OUTPUT:



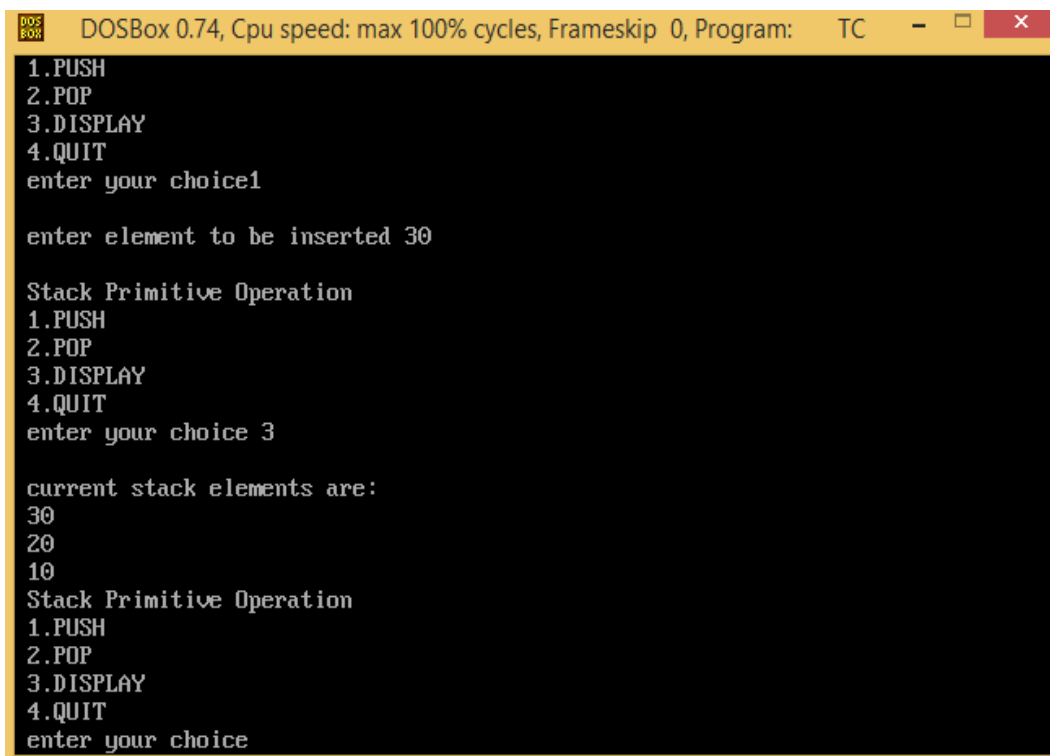
```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 1

enter element to be inserted 10

Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 1

enter element to be inserted 20
```



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice1

enter element to be inserted 30

Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 3

current stack elements are:
30
20
10
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
current stack elements are:
30
20
10
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 2
the deleted element from the stack is 30
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 2
the deleted element from the stack is 20
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice
```

```
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice 2

stack underflow
the deleted element from the stack is 0
Stack Primitive Operation
1.PUSH
2.POP
3.DISPLAY
4.QUIT
enter your choice
```

4. Implement a Program in C for converting an Infix Expression to Postfix Expression.

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
#include<ctype.h>
#define MAX 20
typedef struct stack
{
    char items[MAX];
    int top;
}stack;
int priority(char);
void init(stack *);
int empty(stack *);
int full(stack *);
char pop(stack *);
void push(stack *,char);
char top(stack *);
void postfix(char *,char *);

void main()
{
    CLRSCR();
    char infix[MAX];
    char postr[MAX];
    printf("\n enter infix expression:");
    scanf("%s",infix);
    printf("\n infix expression: %s",infix);
    postfix(infix,postr);
    printf("\n postfix expression: %s \n",postr);
    getch();
}
void postfix(char infix[],char postr[])
{
    stack s;
    int outpos=0,position;
    char symb,x;
    init(&s);
    for(position=0;(symb=infix[position])!='\0';position++)
    {
        if(isalnum(symb))
            postr[outpos++]=symb;
        else
        {
            if(symb=='(')
                push(&s,'(');
            else
```



```

        {
            if(symb=='')
            {
                while((x=pop(&s))!='(')
                    postr[outpos++]=x;
            }
            else
            {
                while(priority(symb)<=priority(top(&s))&& !empty(&s))
                {
                    x=pop(&s);
                    postr[outpos++]=x;
                }
                push(&s,symb);
            }
        }
    }
}

while(!empty(&s))
{
    x=pop(&s);
    postr[outpos++]=x;
}
postr[outpos]='\0';

}

int priority(char x)
{
    if(x=='(')
        return 0;
    if(x=='+'|| x=='-')
        return 1;
    if(x=='*' || x=='/' || x=='%')
        return 2;
    return 3;
}

void init(stack *s)
{
    s->top=-1;
}

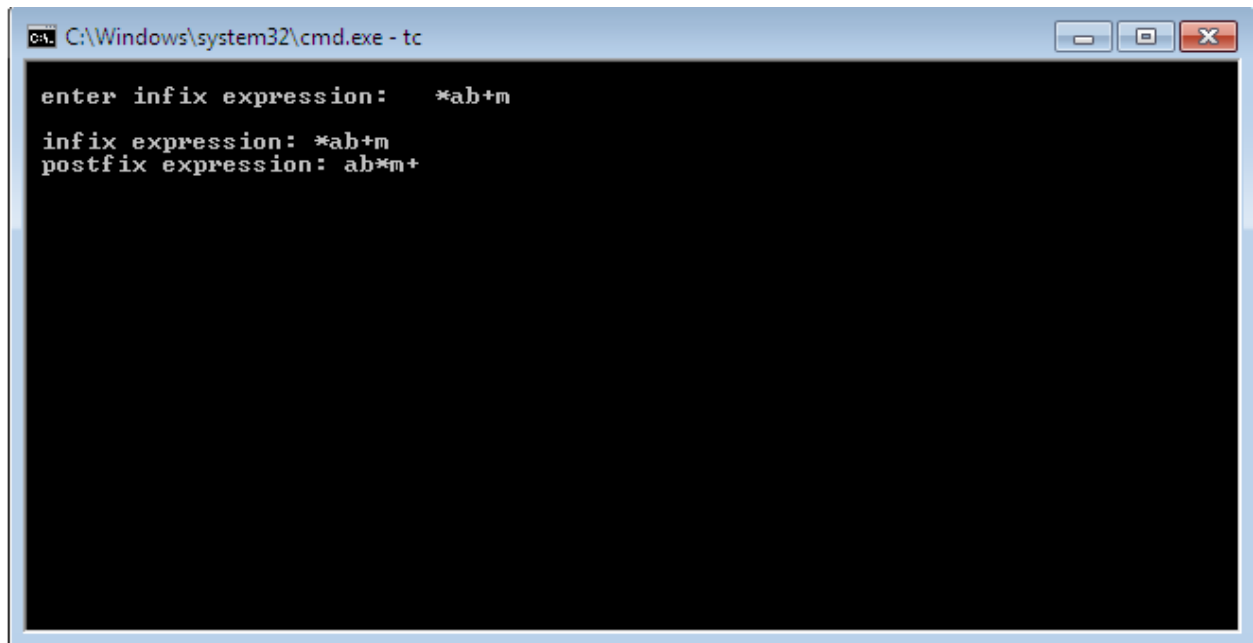
int empty(stack *s)
{
    if(s->top==-1)
        return 1;
    else
        return 0;
}

int full(stack *s)

```

```
{
    if(s->top==MAX-1)
        return 1;
    else
        return 0;
}
void push(stack *s,char x)
{
    s->items[++s->top]=x;
}
char pop(stack *s)
{
    int x;
    x= s->items[s->top--];
    return x;
}
char top(stack *s)
{
    return(s->items[s->top]);
}
```

Output:



```
C:\Windows\system32\cmd.exe - tc

enter infix expression:  *ab+m
infix expression: *ab+m
postfix expression: ab*m+
```

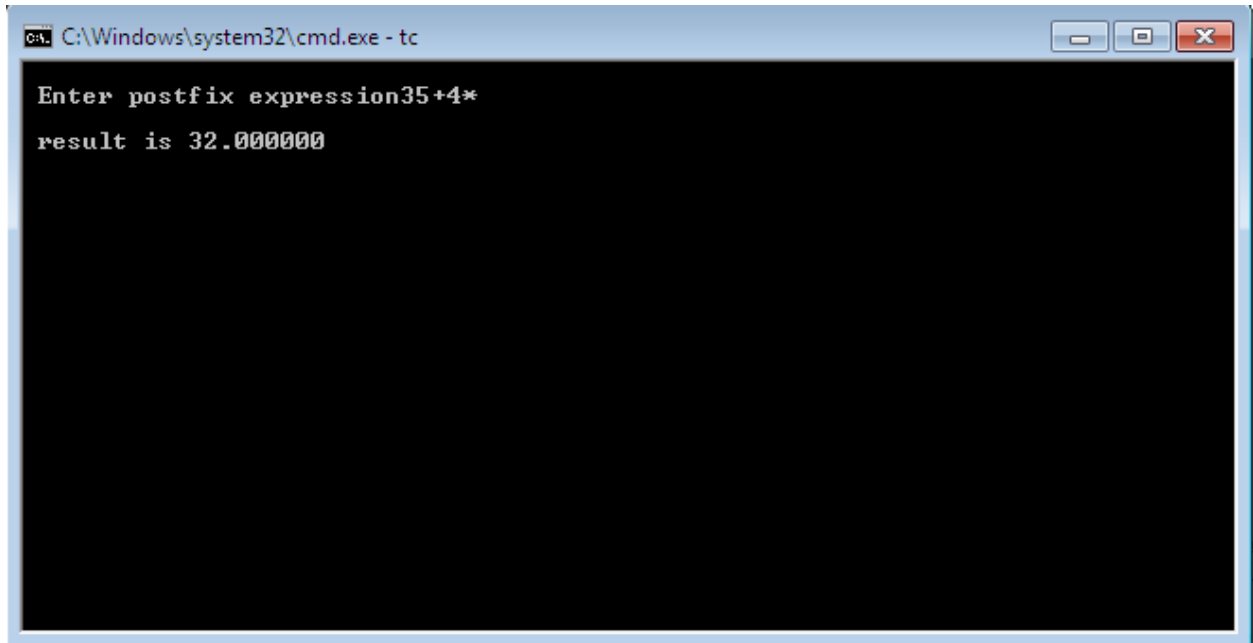

5. Implement a Program in C for evaluating a Postfix Expression.

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
#include<string.h>
#include<math.h>
#include<ctype.h>
double compute(char s,double op1,double op2)
{
    switch(s)
    {
        case '+': return(op1+op2);
        case '-': return(op1-op2);
        case '*': return(op1*op2);
        case '/': return(op1/op2);
        case '$': return(pow(op1,op2));
    }
}

void main()
{
    double res,op1,op2;
    double st[20];
    char sym,pos[20];
    int top,i,n;
    top=-1;
    clrscr();
    printf("\n Enter postfix expression");
    scanf("%s",pos);
    n=strlen(pos);
    for(i=0;i<n;i++)
    {
        sym=pos[i];
        if(isdigit(sym))
        {
            st[++top]=sym-'0';
        }
        else
        {
            op2=st[top--];
            op1=st[top--];
            res=compute(sym,op1,op2);
            st[++top]=res;
        }
    }
    res=st[top--];
    printf("\n result is %f",res);
    getch();
}
```

OUTPUT:



A screenshot of a Windows command prompt window. The title bar shows the path "C:\Windows\system32\cmd.exe - tc". The window has a black background with white text. The text inside the window reads: "Enter postfix expression35+4*" on the first line and "result is 32.000000" on the second line. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

6. Write a C program to simulate the working of a singly linked list providing the following operations: a. Display & Insert b. Delete from the beginning/end c. Delete a given element.

SOURCE CODE:

```
#include<stdio.h>

#include<conio.h>

#include<alloc.h>

#include<stdlib.h>

struct node

{

    int data;

    struct node *link;

};

typedef struct node *NODE;

NODE getnode()

{

    NODE x;

    x=(NODE)malloc(sizeof(struct node));

    if(x==NULL)

    {

        printf("No memory in heap");

        exit(0);

    }

    return x;

}

NODE insert_front(int item,NODE start)

{
```



```
    NODE temp;
    temp=getnode();
    temp->data=item;
    temp->link=start;
    return temp;
}

NODE delete_front(NODE start)
{
    NODE temp;
    if(start==NULL)
    {
        printf("No elements to delete\n");
        return start;
    }
    temp=start;
    printf("Deleted item= %d",temp->data);
    start=start->link;
    free(temp);
    return start;
}

NODE delete_ele(int item,NODE start)
{
    NODE temp,cur;
    if(start==NULL)
    {
        printf("\nNo item to delete ");
        return start;
    }
}
```

```
    }
    temp=NULL;
    cur=start;
    while(cur!=NULL && item!=cur->data)
    {
        temp=cur;
        cur=cur->link;
    }
    if(cur==NULL)
    {
        printf("\nItem not found ");
        return start;
    }
    temp->link=cur->link;
    printf("item deleted %d",cur->data);
    free(cur);
    return start;
}

NODE insert_rear(int item,NODE start)
{
    NODE temp,cur;
    temp=getnode();
    temp->data=item;
    temp->link=NULL;
    if(start==NULL)
        return temp;
```

```
    cur=start;
    while(cur->link!=NULL)
        cur=cur->link;

    cur->link=temp;
    return start;
}

void display(NODE start)
{
    NODE temp;
    if(start==NULL)
    {
        printf("No elements to display\n");
        return;
    }
    printf("The contents of list:\n");
    temp=start;
    while(temp!=NULL)
    {
        printf("%d\n",temp->data);
        temp=temp->link;
    }
}

NODE delete_rear(NODE start)
{
    NODE prev,cur;
    if(start==NULL)
```



```
{
    printf("No element to delete\n");
    return start;
}
if(start->link==NULL)
{
    printf("\nDelete element is %d\n",start->data);
    free(start);
    return NULL;
}
prev=NULL;
cur=start;
while(cur->link!=NULL)
{
    prev=cur;
    cur=cur->link;
}
printf("\nDeleted element is %d ",cur->data);
free(cur);
prev->link=NULL;
return start;
}

void main()
{
    int opt,item;
    NODE start=NULL;
    clrscr();
```

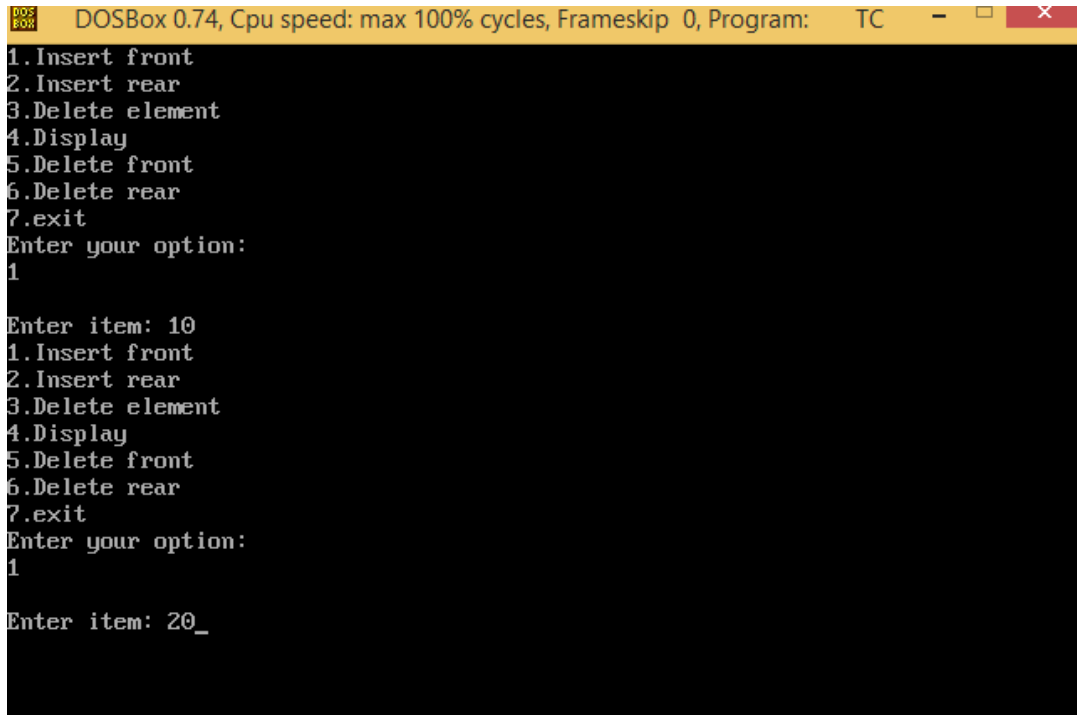
```
for(;;)
{
    printf("1.Insert front\n2.Insert rear\n3.Delete
element\n4.Display\n");
    printf("5.Delete front\n6.Delete rear\n7.exit\n");
    printf("Enter your option:\n");
    scanf("%d",&opt);
    switch(opt)
    {
        case 1:printf("\nEnter item: ");
                scanf("%d",&item);
                start=insert_front(item,start);
                break;
        case 2:printf("\nEnter item: ");
                scanf("%d",&item);
                start=insert_rear(item,start);
                break;
        case 3:printf("\nEnter item to delete: ");
                scanf("%d",&item);
                start=delete_ele(item,start);
                break;
        case 4:display(start);
                break;
        case 5:start=delete_front(start);
                break;
        case 6:start=delete_rear(start);
                break;
```

```
        case 7:exit(0);
        default :printf("enter correct choice");
                break;
    }

}

    getch();
}
```

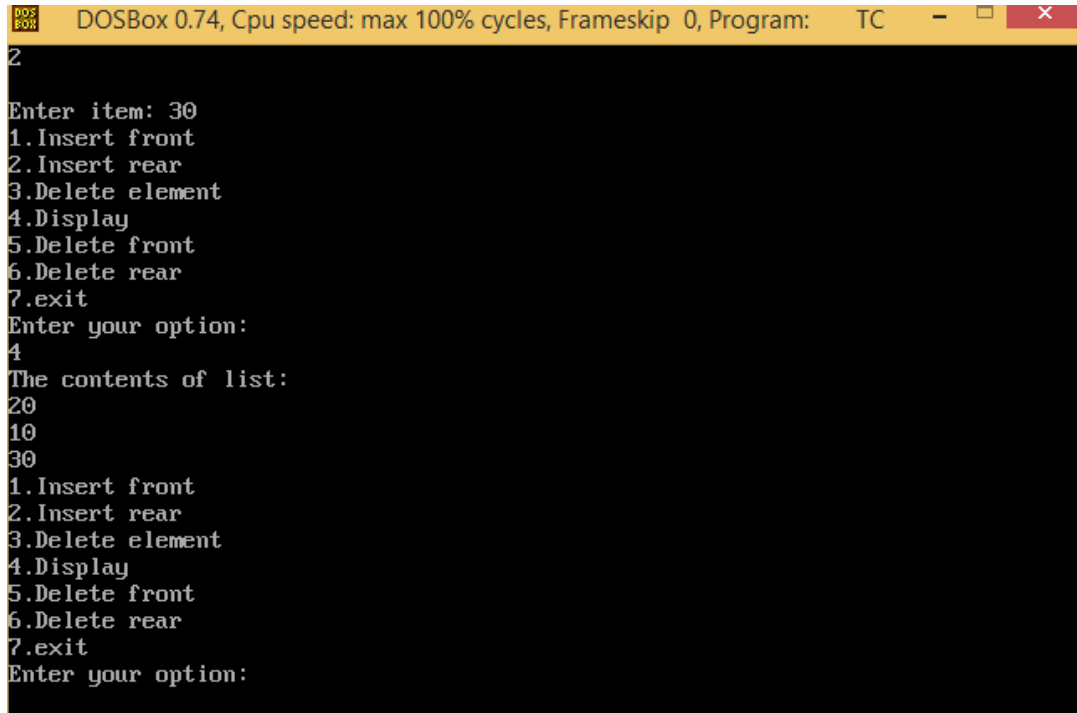

OUTPUT:



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
1.Insert front
2.Insert rear
3.Delete element
4.Display
5.Delete front
6.Delete rear
7.exit
Enter your option:
1

Enter item: 10
1.Insert front
2.Insert rear
3.Delete element
4.Display
5.Delete front
6.Delete rear
7.exit
Enter your option:
1

Enter item: 20_
```



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
2

Enter item: 30
1.Insert front
2.Insert rear
3.Delete element
4.Display
5.Delete front
6.Delete rear
7.exit
Enter your option:
4

The contents of list:
20
10
30
1.Insert front
2.Insert rear
3.Delete element
4.Display
5.Delete front
6.Delete rear
7.exit
Enter your option:
```

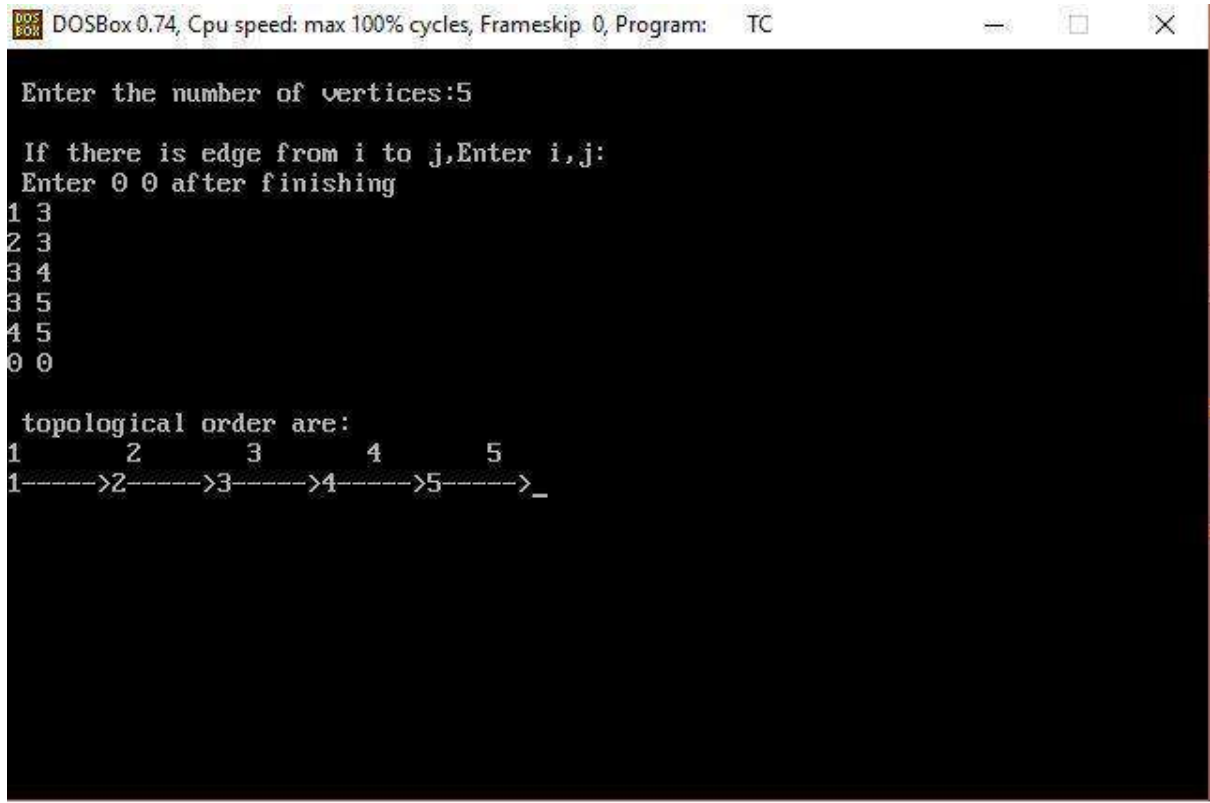
7. Obtain the Topological ordering of vertices in a given graph with the help of a C Programming.**SOURCE CODE:**

```
#include<iostream.h>
#include<conio.h>
void main()
{
    int count=0,num=0,i,j,k,n,a[30][30],in[30],order[30],flag[30];
    clrscr();
    cout<<"\n Enter the number of vertices:";
    cin>>n;
    for(i=1;i<=n;i++)
    {
        in[i]=0;
        flag[i]=0;
        for(j=1;j<=n;j++)
        {
            a[i][j]=0;
        }
    }
    cout<<"\n If there is edge from i to j,Enter i,j:"; cout<<"\n Enter 0 0 after finishing";
    while(i!=0)
    {
        cin>>i>>j;
        a[i][j]=1;
    }
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
            in[i]+=a[j][i];
    }
    cout<<"\n topological order are:\n";
    while(count<n)
    {
        for(k=1;k<=n;k++)
        {
            if(in[k]==0 && flag[k]==0)
            {
                cout<<k<<"\t";
                count++;
                order[++num]=k;
                flag[k]=1;
            }
        }
    }
}
```

```
        for(i=1;i<=n;i++)
        if(a[k][i]==1)
        {
                in[i]--;
        }
    }

cout<<"\n";
for(i=1;i<=n;i++)
cout<<order[i]<<"----->";
getch();
}
}
```


OUTPUT :



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip: 0, Program: TC

Enter the number of vertices:5

If there is edge from i to j,Enter i,j:
Enter 0 0 after finishing
1 3
2 3
3 4
3 5
4 5
0 0

topological order are:
1      2      3      4      5
1----->2----->3----->4----->5----->_
```

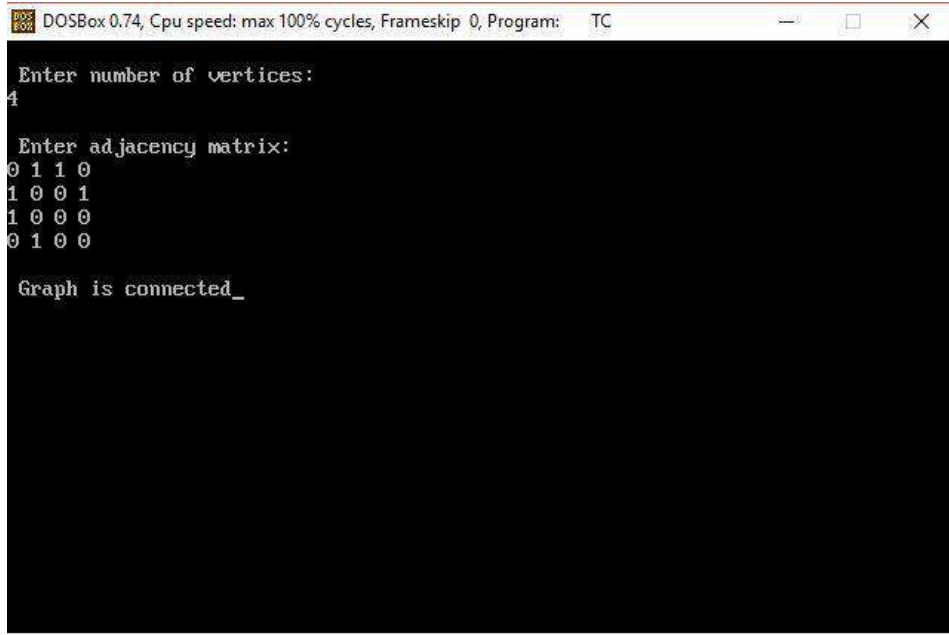
8. Check whether a given graph is connected or not using DFS method using C Programming.**SOURCE CODE :**

```
#include<stdio.h>
#include<conio.h>

void dfs(int n,int a[10][10],int u,int visited[])
{
    int v;
    visited[u]=1;
    for(v=0;v<n;v++)
        if((a[u][v]==1) &&
            (visited[v]==0)) dfs(n,a,v,visited);
}

void main()
{
    int n,i,j,a[10][10],visited[10],flag,connected;
    clrscr();
    printf("\n Enter number of vertices: \n");
    scanf("%d",&n);
    printf("\n Enter adjacency matrix: \n");
    for(i=0;i<n;i++)
        for(j=0;j<n;j++)
            scanf("%d",&a[i][j]);
    connected=0;
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
            visited[j]=0;
        dfs(n,a,i,visited);
        flag=0;
        for(j=0;j<n;j++)
            if(visited[j]==0)
                flag=1;
        if(flag==0)
            connected=1;
    }
    if(connected==1)
    {
        printf("\n Graph is connected");
    }
    else
    {
        printf("\n Graph is not connected");
    }
    getch();
}
```

OUTPUT :1



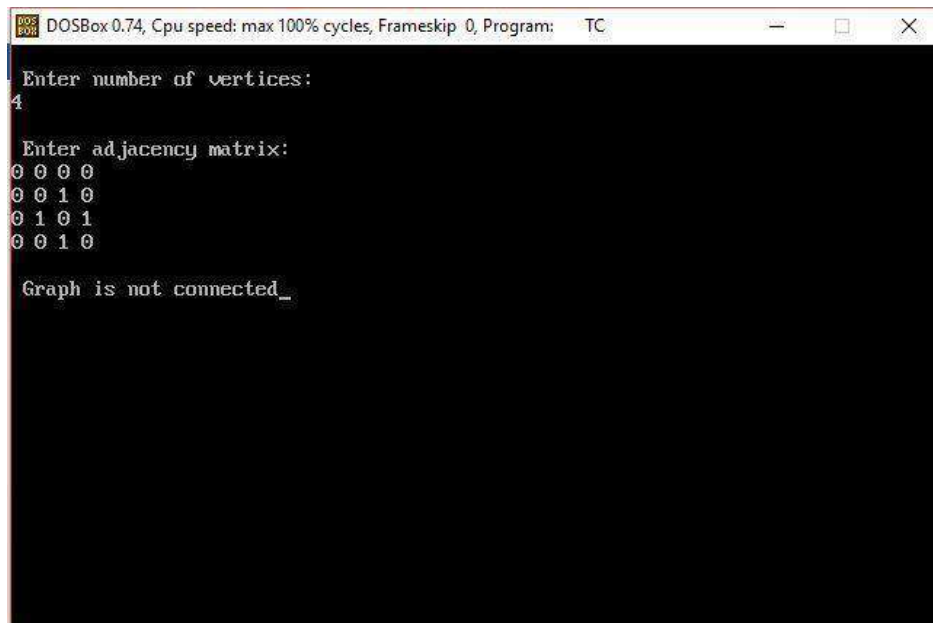
```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

Enter number of vertices:
4

Enter adjacency matrix:
0 1 1 0
1 0 0 1
1 0 0 0
0 1 0 0

Graph is connected_
```

OUTPUT :2



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

Enter number of vertices:
4

Enter adjacency matrix:
0 0 0 0
0 0 1 0
0 1 0 1
0 0 1 0

Graph is not connected_
```


9. From a given vertex in a weighted connected graph, find shortest paths to other vertices using Dijkstra's algorithm(C Programming).

SOURCE CODE :

```
#include<stdio.h>
#include<conio.h>
#define infinity 999

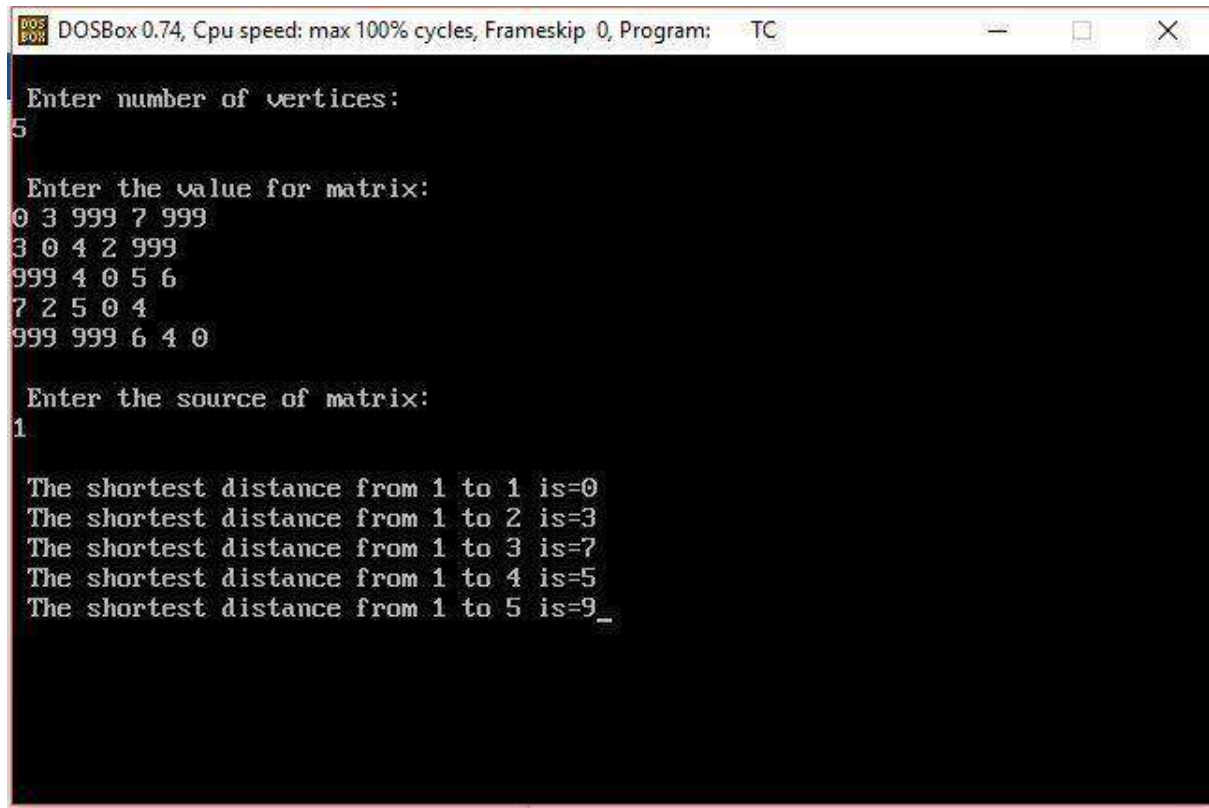
void dj(int cost[10][10],int n,int source,int dist[10])
{
    int i,j,u,visited[10],min;
    for(i=1;i<=n;i++)
    {
        dist[i]=cost[source][i];
        visited[i]=0;
    }
    visited[source]=1;
    for(i=1;i<=n;i++)
    {
        min=infinity;
        for(j=1;j<=n;j++)
        {
            if(visited[j]==0 && dist[j]<min)
            {
                min=dist[j];
                u=j;
            }
        }

        visited[u]=1;
        for(j=1;j<=n;j++)
        {
            if(visited[j]==0 && dist[u]+cost[u][j]<dist[j])
            {
                dist[j]=dist[u]+cost[u][j];
            }
        }
    }
}

void main()
{
    int i,j,n,cost[10][10],source,dist[10];
    clrscr();
    printf("\n Enter number of vertices: \n");
    scanf("%d",&n);
    printf("\n Enter the value for matrix: \n");
    for(i=1;i<=n;i++)
    {
```

```
        for(j=1;j<=n;j++)
        {
            scanf("%d",&cost[i][j]);
        }
    }
    printf("\n Enter the source of matrix: \n");
    scanf("%d",&source);
    dj(cost,n,source,dist);
    for(i=1;i<=n;i++)
    printf("\n The shortest distance from %d to %d is=%d",source,i,dist[i]);
    getch();
}
```

OUTPUT :



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

Enter number of vertices:
5

Enter the value for matrix:
0 3 999 7 999
3 0 4 2 999
999 4 0 5 6
7 2 5 0 4
999 999 6 4 0

Enter the source of matrix:
1

The shortest distance from 1 to 1 is=0
The shortest distance from 1 to 2 is=3
The shortest distance from 1 to 3 is=7
The shortest distance from 1 to 4 is=5
The shortest distance from 1 to 5 is=9_
```


10. Find Minimum Cost Spanning Tree of a given undirected graph using Kruskal's algorithm(C Programming).

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>

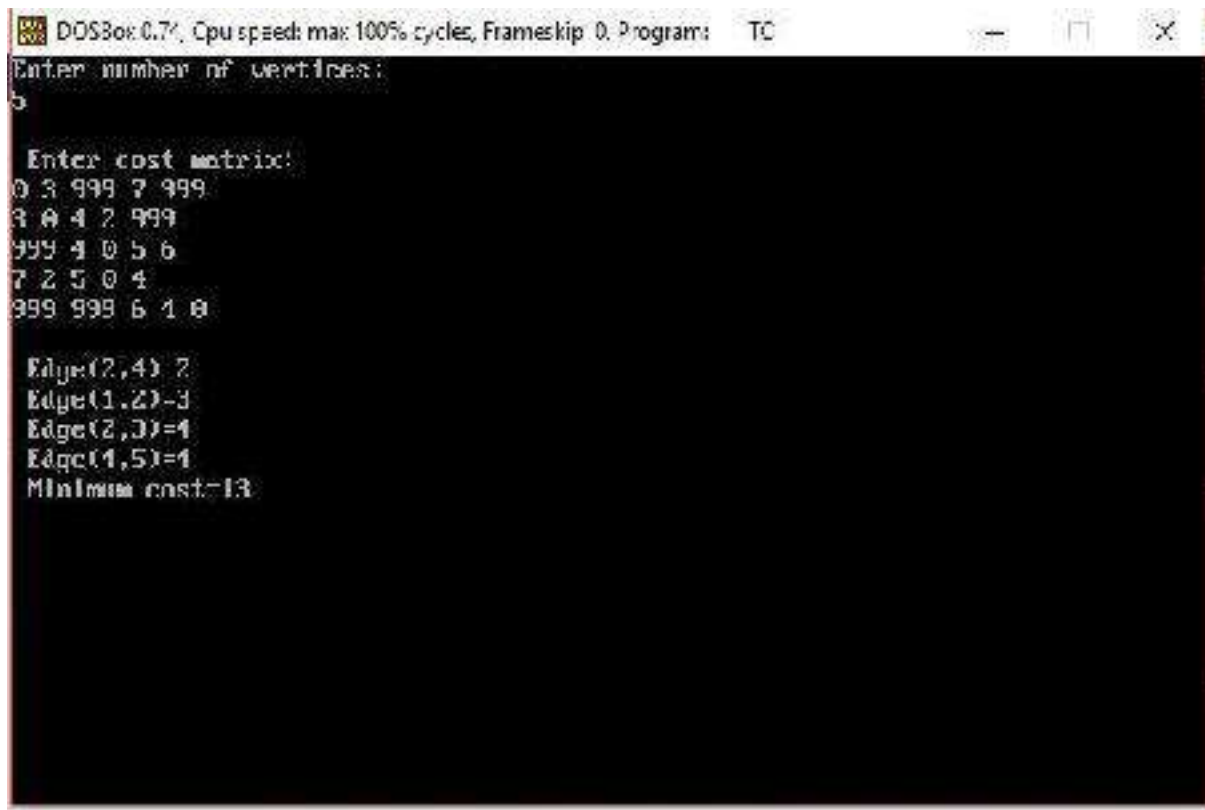
void main()
{
    int n,v,u,cost[10][10],parent[10]={0},i,j;
    int count=1,mincost=0,min,a,b;
    clrscr();
    printf("Enter number of vertices:
    \n"); scanf("%d",&n);
    printf("\n Enter cost matrix:
    \n"); for(i=1;i<=n;i++)
    {
        for(j=1;j<=n;j++)
        {
            scanf("%d",&cost[i][j]);
            if(cost[i][j]==0)
                cost[i][j]=999;
        }
    }

    while(count<n)
    {
        min=999;
        for(i=1;i<=n;i++)
            for(j=1;j<=n;j++)
                if(cost[i][j]<min)
                {
                    min=cost[i][j];
                    a=u=i;
                    b=v=j;
                }
        while(parent[u])
            u=parent[u];
        while(parent[v])
            v=parent[v];
        if(u!=v)
        {
            count++;
            printf("\n Edge(%d,%d)=%d",a,b,min);
            mincost+=min;
        }
    }
}
```

```
        parent[v]=u;

    }
    cost[a][b]=cost[b][a]=999;
}
printf("\n Minimum cost=%d",mincost);
getch();
}
```

OUTPUT :



```
DOSBox 0.74 Cpu speed: max 100% cycles, Frameskip 0. Program: TC
Enter number of vertices:
5
Enter cost matrix:
0 3 999 7 999
3 0 4 2 999
999 4 0 5 6
7 2 5 0 4
999 999 6 1 0

Edge(2,4)=2
Edge(1,2)=3
Edge(2,3)=4
Edge(4,5)=1
Minimum cost=13
```


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LABORATORY RECORD

1st SEMESTER

Computer Networks Laboratory (22MCAL17)

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

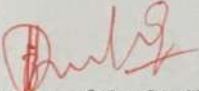
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
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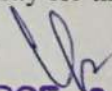
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS



CERTIFICATE

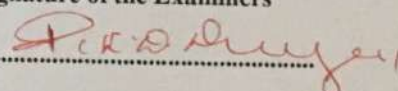
This is to certify that *VIDYA B J* of 1st semester bearing *USN : 1MV22MC060* has satisfactorily completed the course of experiments in **Computer Networks Laboratory (22MCAL17)** prescribed by Visvesvaraya Technological University for the MCA course in the laboratory of this college during the academic year 2022-2023.


Signature of the Staff in-charge


PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
Sir M. Visvesvaraya Institute of Technology
Hunasamaranahalli, Bangalore-562 157
HOD
Dept. of MCA, SIR MVIT

Date of Examination
.....

Signature of the Examiners

1. 
.....
2.

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

CONTENTS

SL NO	Experiments
01	Implement three nodes point – to – point network with duplex links between them. Set the queue size, vary the bandwidth and find the number of packets dropped.
02	Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.
03	Write a program to compute CRC code for the polynomials CRC-12, CRC-16 and CRC CCIP
04	Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism.
05	Implement Dijkstra's algorithm to compute the shortest path through a network
06	Implement data encryption and data decryption
07	Simulate the network with five nodes n0, n1, n2, n3, n4, forming a star topology. The node n4 is at the centre. Node n0 is a TCP source, which transmits packets to node n3 (a TCP sink) through the node n4. Node n1 is another traffic source, and sends UDP packets to node n2 through n4. The duration of the simulation time is 10 seconds
08	Simulate to study transmission of packets over Ethernet LAN and determine the number of packets drop destination.

1. Implement three nodes point – to – point network with duplex links between them. Set the queue size, vary the bandwidth and find the number of packets dropped.

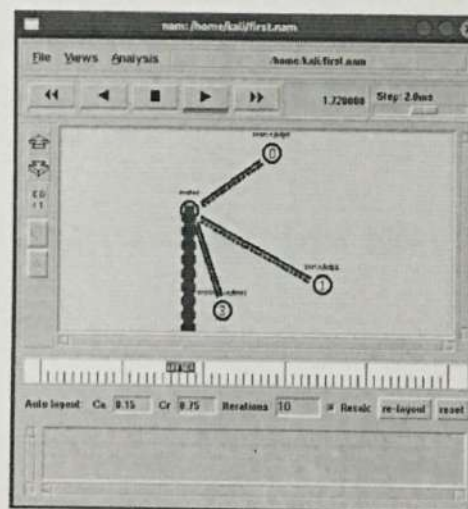
```
set ns [new Simulator]
set nf [open first.nam w]
$ns namtrace-all $nf
set tf [open first.tr w]
$ns trace-all $tf
proc finish () {
    global ns nf tf
    $ns flush-trace
    exec nam first.nam &
    close $tf
    close $nf
    exit 0
}
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
$ns color 1 "red"
$ns color 2 "blue"
$n0 label "source/udp0"
$n1 label "source/udp1"
$n2 label "router"
$n3 label "destination/Null"
$ns duplex-link $n0 $n2 100Mb 300ms DropTail
$ns duplex-link $n1 $n2 100Mb 300ms DropTail
$ns duplex-link $n2 $n3 100Mb 300ms DropTail
$ns set queue-limit $n0 $n2 50
$ns set queue-limit $n1 $n2 50
$ns set queue-limit $n2 $n3 5
set udp0 [new Agent/UDP]
$ns attach-agent $n0 $udp0
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetize 500
$cbr0 set interval 0.0005
$cbr0 attach-agent $udp0
set udp1 [new Agent/UDP]
$udp1 set class 2
$ns attach-agent $n1 $udp1
set cbr1 [new Application/Traffic/CBR]
$cbr1 set packetize 500
$cbr1 set interval 0.0005
$cbr1 attach-agent $udp1
set null0 [new Agent/Null]
$ns attach-agent $n3 $null0
```

```
$ns connect $udp0 $null0
$ns connect $udp1 $null0
$ns at 0.5 "$cbr0 start"
$ns at 1.0 "$cbr1 start"
$ns at 4.0 "$cbr1 stop"
$ns at 4.5 "$cbr0 stop"
$ns at 5.0 "finish"
$ns run
```

AWK

```
BEGIN{
Count=0;
}
{
if ($1=="d")
Count++;
}
END{
printf "Number of Packet dropped : %d",Count;
}
```

OUTPUT



The Total number of packets dropped is 44952

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DEPARTMENT OF MCA

VI Semester Project Guide List 2020-21

Sl. No.	USN	Name of the Student	Guide Name
1	1MV18MCA01	Akash Kumar	Dr. Manjula Sanjay Koti
2	1MV18MCA03	Durga Devi T	
3	1MV18MCA09	Theerthesh T P	
4	1MV18MCA11	Yogesh Tripathi	
5	1MV19MCA50	Abhilash D S	
6	1MV19MCA54	Anil D S	
7	1MZ19MCA51	Nishanth T	
8	1MZ19MCA67	Shilpa R	
9	1MZ19MCA71	Supriya jaiswal	
10	1MV18MCA02	Ankita Kumari	Prof. Lakshmi K
11	1MV18MCA08	Shubra Kolay	
12	1MV18MCA10	U Srinidhi	
13	1MV19MCA51	Aishwarya M M	
14	1MV19MCA52	Ajith G	
15	1MV19MCA72	Manoj V	
16	1MZ19MCA52	Padmaja V Naik	
17	1MZ19MCA53	Pavan Kumar M	
18	1MV18MCA04	HariPrasad B	Prof. Latha R
19	1MV18MCA05	Karthik K M	
20	1MV19MCA54	Amarnath G H	
21	1MV19MCA56	Ashwin Kumar	
22	1MV19MCA57	Beerappa Naik	
23	1MV19MCA61	Divya C R	
24	1MV19MCA62	Shivani G	
25	1MZ19MCA62	S Harini	
26	1MV18MCA07	Osama Imam	Prof. Muthuramalingam B.
27	1MV19MCA55	Archana G	
28	1MV19MCA58	Bindu B	
29	1MV19MCA59	Chandana C L	
30	1MV19MCA66	Kritika Gupta	
31	1MV19MCA73	Meena G	
32	1MZ19MCA56	Pradeepkumar	
33	1MZ19MCA61	Rudresha M	

Sl. No.	USN	Name of the Student	Guide Name
34	1MV19MCA60	Dharshini M	Prof. Vani Harave
35	1MV19MCA64	Kailas	
36	1MV19MCA67	Lahari A	
37	1MV19MCA68	Lavanya R	
38	1MZ19MCA54	Pooja B	
39	1MZ19MCA60	Ravikumar M	
40	1MZ19MCA64	Sakshi Kumari	
41	1MZ19MCA65	Sathish kumar	
42	1MV19MCA65	Kilari Reddy Shekar	Prof. Raghavendra Rao B.G.
43	1MV19MCA69	Likith Reddy	
44	1MV19MCA70	Madhu N	
45	1MV19MCA74	Mythri M	
46	1MV19MCA75	Nagashree R	
47	1MZ19MCA55	Pooja Y	
48	1MZ19MCA66	Sharath Kumar	
49	1MZ19MCA70	Sumalatha	
50	1MV19MCA63	GuruPrasad	Prof. Vasantha S
51	1MV19MCA76	Nancy Priya	
52	1MV19MCA79	Naveenkumar	
53	1MZ19MCA50	Nidhi P	
54	1MZ19MCA57	Prathima A	
55	1MZ19MCA58	Rachana G	
56	1MV19MCA71	Mythri K P	
57	1MZ19MCA68	Sindhu H S	
58	1MV19MCA77	Nandini D	Prof. Sneha Bharti
59	1MV19MCA78	Navaja Sharif	
60	1MZ19MCA59	Rashmi N	
61	1MZ19MCA69	Soundarya N	
62	1MZ19MCA72	T M ShivaShankara	
63	1MZ19MCA73	Thanuja C	
64	1MZ19MCA74	Vinaykumar T M	

Sneha Bharti
Coordinator

[Signature]
HOD-Dept. of M.C.A
PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
M. Visvesvaraya Institute of Technology
Channarayanaiahalli, Bangalore-562 157

ENCRYPTED DATA UPGRADE FOR MULTI-USER ENVIRONMENTS

A Dissertation submitted in the partial fulfillment of the requirement
for the award of the degree of

MASTER OF COMPUTER APPLICATIONS

of

Visvesvaraya Technological University



by

SHASHIKALA M
1MV20MC046

Under the Guidance of

Internal Guide

Mr.Vasantha S

External Guide

Ms.Kasthuri K



Department of Master of Computer Applications

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

**KRISHNADEVARAYA NAGAR, HUNSAMARANAHALI,
BENGALURU – 562 157**

July 2022

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Internal Guide

Mr. Vasantha S

Assistant Professor,
Dept. of MCA
Sir MVIT, Bengaluru

External Guide

Ms. Kasthuri K

Project Manager,
TechCiti Technologies Pvt Ltd
Bengaluru



Department of Master of Computer Applications
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
KRISHNADEVARAYA NAGAR, HUNSAMARANAHALLI,
BENGALURU – 562 157

July 2022

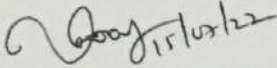


SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
KRISHNADEVARAYA NAGAR, HUNSAMARANAHALLI,
BENGALURU – 562157

CERTIFICATE

This is to certify that **Ms. SHASHIKALA M** bearing **USN 1MV20MC046** has completed her final semester project work entitled **“ENCRYPTED DATA UPGRADE FOR MULTI-USER ENVIRONMENTS”** as partial fulfillment for the award of Master of Computer Applications degree, during the academic year 2021 – 2022 under our supervision.

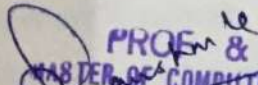


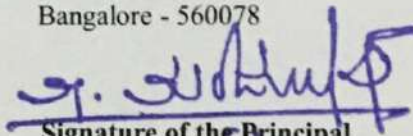

Signature of the Internal Guide

Mr. Vasantha S
Assistant Professor,
Dept. of MCA, Sir MVIT
Bangalore-562157

Signature of the External Guide

Ms. Kasthuri K
Project Manager
TechCiti Technologies Private
Limited.
Bangalore - 560078

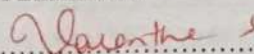
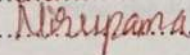

PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
Signature of the HOD
Dept. of MCA, Sir MVIT
Bangalore-562157


Signature of the Principal

Dr. V. R. Manjunath
Principal
Sir M. Visvesvaraya Institute of Technology
Krishnadevaraya Nagar, Hunsamaranahalli,
Bangalore-562157
International Airport Road, Bangalore-562157.

External Viva-voce

Name of Examiners

1. 
2. 

Signature:

Signature:

No.TTPL/2022-2023/HRD/INT4094

Date: 07th July, 2022

TO WHOMSOEVER IT MAY CONCERN

I would like to inform you that Ms. **Shashikala M** has successfully completed her project with our company, has been working on the project "**Encrypted Data Upgrade for Multi-User Environments**" under the domain: Python from 04-04-2022 to 06-07-2022.

I have found her to be a self-starter who is motivated, duty-bound and hardworking. She has worked sincerely on her assignments and her performance is at par excellence.

I wish her all the best for her future endeavors.



Manager

Human Resources Department

TechCiti Technologies Private Limited.

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MCA

VI Semester Internship & Project Guide Details_2020-21

Sl. No.	USN	Name of the Student	Guide Name
1	1MV18MCA01	Akash Kumar	Dr. Manjula Sanjay Koti
2	1MV18MCA09	Theerthesh T P	
3	1MV18MCA11	Yogesh Tripathi	
4	1MV19MCA50	Abhilash D S	
5	1MV19MCA54	Anil D S	
6	1MV19MCA63	GuruPrasad	
7	1MZ19MCA51	Nishanth T	
8	1MZ19MCA67	Shilpa R	
9	1MZ19MCA71	Supriya jaiswal	
10	1MV18MCA02	Ankita Kumari	Prof. Lakshmi K
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17	1MZ19MCA56	Pradeepkumar	
18	1MZ19MCA60	Ravikumar M	
19	1MV18MCA03	Durga Devi T	Prof. Sujatha Anand
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62	1MZ19MCA69	Soundarya N	
63	1MZ19MCA72	T M ShivaShankara	
64	1MZ19MCA74	Vinaykumar T M	

Sneha Bhatti
26/02/2021
Coordinator

[Signature]
HOD-Dept. of M.C.A
PROF & HEAD
DEPT. OF COMPUTER APPLICATIONS
V. Visvesvaraya Institute of Technology
Junasamaranahalli, Bangalore-562 157

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA, BELAGAVI



Internship Report on
VEHICLE FUEL CONSUMPTION PREDICTION
Submitted in partial fulfillment of the requirements of the 6th Semester in
MASTER OF COMPUTER APPLICATIONS

BY

PADMAJA V NAIK

USN 1MZ19MCA52

Under the Guidance of

Dr. Lakshmi K
Associate Professor
Dept. of MCA,
Sir MVIT, Bengaluru



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
Bengaluru-57

2020-21 Even Semester

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

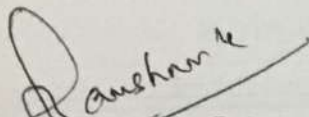
MASTER OF COMPUTER APPLICATIONS

Bengaluru-64

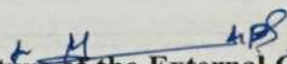


INTERNSHIP CERTIFICATE

This is to certify that the internship report titled **"VEHICLE FUEL CONSUMPTION PREDICTION"** submitted by **Ms. PADMAJA V NAIK** bearing USN: **1MZ19MCA52** in partial fulfilment of the requirements of **Internship -18MCA61** at **INFIDATA TECHNOLOGIES.,** from 11/02/2021 to 10/03/2021.

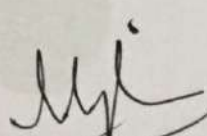

Signature of the Internal Guide

Dr. LAKSHMI K
Associate Professor


Signature of the External Guide

Raghuprasad K S
Data Science Engineer




Signature of the HOD

PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
Sir M. Visvesvaraya Institute of Technology
Gunasamaranahalli, Bangalore-562 157



DEVELOPMENT | TRAINING | CONSULTING

An ISO 9001:2015 Certified Company

INFIDATA TECHNOLOGIES

#2341, 2nd & 3rd floor, 16th 'B' cross,
Yelahanka Newtown, Bengaluru - 560064
Karnataka, INDIA
+91 7090 240 240 | info@infidata.in
www.infidata.in

Ref: INFIDATA/Internship/2021/455

Date: 12/03/2021

CERTIFICATE OF INTERNSHIP

This is to certify that **Ms. PADMAJA V NAIK [USN: 1MZ19MCA52]**, a student of MCA from "Sir M Visvesvaraya Institute of Technology" Bengaluru, has successfully completed internship work on the domain "*Machine Learning*" and she has worked on a project titled "*Vehicle Fuel Consumption Predictions*" at Infidata Technologies Development Centre from 11th February 2021 to 10th March 2021 under the guidance of **Mr. Raghuprasad K S**, Data Scientist. During the period of her internship program with us she was found punctual and creative.

Raghuprasad K S

Internship/Project Guide



[Signature]
Director, Development Division



Project Internship (18MCA61)

Course Outcomes

1. Analyse the real-time industry/research work environment with emphasis on organizational structure/job process/different departments and functions / tools /technology.
2. Develop applications using modern tools and technologies.
3. Demonstrate self-learning capabilities with an effective report and detailed presentation.

CO-PO Mapping

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3		3					2		
CO2			3	3	3						2	
CO3						3	3		3			

Rubrics for Internship Presentation Assessment

	Excellent (10)	V. Good (8)	Good (6)	Satisfactory (4)	Poor (2)	Final Score
Knowledge on Industry experience /Research work	Demonstrates in depth knowledge about Industry / Research processes; answered all questions with elaboration	Adequate knowledge on most of the industry/ Research processes. Answered all questions but failed to elaborate	Knowledge to a limited extent on major processes. Able to answer most of the questions though not elaborate	Superficial knowledge of topic; only able to answer basic questions	Does not have any knowledge; Unable to answer questions	9
Organization of the presentation	Presented in logical sequence; introduction and background given in proper context; key points and conclusions are clear and well presented with citations and references	Most information presented in logical sequence; clear introduction; adequate background; some irrelevant information. Some References are overlooked	Organized in a presentable manner though lacks details of some of the topics. Or very less references and citations.	Problems with sequencing, lacks clear transitions; incomplete or overly detailed introduction, emphasis given to less important information	Little or no organization, difficult to follow; missing or ineffective introduction; confusing background; key points unclear	9
Usage of Modern tools and technologies	Effectively utilized appropriate tools and technologies	Involved sufficiently in developing applications by	Developed applications, though not very	Sufficient for understanding but not clearly elaborated	Too brief or insufficient for understanding or too detailed	9

	for implementation.	utilizing modern tools and technologies	effectively. Fair enough.	about usage of tools and technologies		
Presentation Skills	Clear articulation about tools/technology, steady delivery rate, good posture and eye contact, confident and appropriately dressed	Clear articulation about tools/technology but not very polished. Able to recover from minor mistakes. Appropriately dressed	Good articulation about tools/technology and not very polished. Not able to realize minor mistakes. Presentable attire	Refers to slides to make points, occasional eye contact, incorrect pronunciations, and Voice fluctuation.	No clarity in sentence, Inaudible or too loud, no eye contact, delivery rate is too slow or too fast, not in formal attire	9
Visuals	Visually pleasing and easy to read; good use of white space, colour, backgrounds; images and Graphics support.	Adequate layout, but with some fonts, colours, backgrounds difficult to read	Good visuals but can be improved largely.	Difficult to read, cluttered appearance; images improperly sized; some distracting graphics or animations	Confusing layout, text extremely difficult to read; many graphics, sounds, animations distract from the presentation	9
Total Score						45

Rubrics for Internship Report Assessment

	Excellent (10)	V. Good (8)	Good(6)	Satisfactory (4)	Poor (2)	Final Score
Purpose and Objective of Internship	The purpose and objective of the Internship report is made clear, and the report addresses the objective(s) in a focused and logical manner.	The purpose and objective of the Internship report is made clear, and the report addresses the objective(s).	Documented well but with slight ambiguity in analyzing the problems	Purpose and objectives are stated ambiguously	The report does not clearly address the objective(s) of Internship.	11
Documenting the essence of Tools/Technology used, Grammar & Spelling	Complete information is provided about tools/technology, Very few spelling errors, correct punctuation, grammatically correct, complete sentences.	Information is provided about tools/technology, Occasional lapses in spelling, punctuation, grammar, but not enough to seriously distract the reader.	Average technical details on tools/technology usage, Grammatical mistakes not corrected.	Less technical details, sentences are not framed properly and with a few spelling mistakes	No details about tools/technology, Numerous spelling errors, non-existent or incorrect punctuation, and/or severe errors in grammar that interfere with understanding.	11

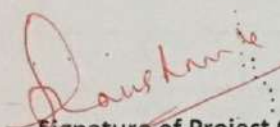
Code Development / self learning	Design and Code is self-developed wherever applicable.	Design and Code is self-developed wherever applicable. Code snippets are partially cited	Design and Code is not partially self-developed wherever applicable	Major part of the implementation is copied.	No details about design and development	12
Report Format	All required elements of the report are present and completed efficiently.	All required elements of the report are present and completed to a satisfactory standard.	All required elements are present but some of them are not given completely	All required elements are provided but in a haphazard way	Key elements of the report are not provided. Overall presentation of the document is not to a professional standard.	11
Total Score						45

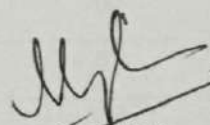
Rubrics for Internship Presentation and Question/ Answer

(Knowledge on industry experience /Research work) Assessment (out of 25 + 25 marks): 45

Rubrics for Internship Report Assessment (out of 50 marks) = 45

Total Marks (Out of 100 marks) = 90


Signature of Project Guide


Signature of HOD



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



(Affiliated to VTU-Belagavi), Recognized by AICTE and Accredited by NBA & NAAC
shnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562 157

Department of MCA

organises

A one-day SDP on

GRAPH THEORY AND ITS APPLICATIONS IN COMPUTER SCIENCE"

Resource Person



Mr. MANJUNATHA H T,
Assistant Professor, JNNCE,
Shimoga

DATE & TIME



16/05/2023



9:00 AM

VENUE



MCA LAB 5B-105

Convenor

Dr. Ch. Vanipriya

Professor & HOD, Dept. of MCA

Coordinators

Vani Harave

Asst. Prof., Dept. of MCA

Raghavendra Rao B. G.

Asst. Prof., Dept. of MCA

Sneha Bharti

Asst. Prof., Dept. of MCA

Organizing Committee:

R. Latha, B. Muthuramalingam, Vasantha S., Ashwini R., Niveditha A.

mail.google.com/mail/u/4/#inbox/FFNDWNFRdZrXjtjJwdxjNNBDCwJbqzj?projector=1&messagePartId=0.3

SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF MCA

REPORT ON

A One Day Student Development Programme

"GRAPH THEORY AND ITS APPLICATIONS IN COMPUTER SCIENCE"

Resource Person: Mr. Manjunatha T,
Assistant Professor,
Jawaharlal Nehru National College of Engineering,
Shimoga.

Target Audience: MCA first year students

Date: 16th May 2023.

Department of MCA has conducted a one day Student Development Program on the "Applications of Graph Theory in Computer Science" to bridge the gap between the curriculum and industry expectations. Mr. Manjunatha T, Assistant Professor, Jawaharlal Nehru National College of Engineering, Shimoga was the resource person for the program. The resource person discussed on concepts of graph theory with plenty of examples and also threw a light on applications of graph theory in various domains. He concentrated on the applications of graph theory in computer science. He followed a very easy and simple approach to explain the concepts. Students were very happy with the way session was handled. It was followed by the Q & A session with questions by the students. Overall it was a useful and informative session for the students.

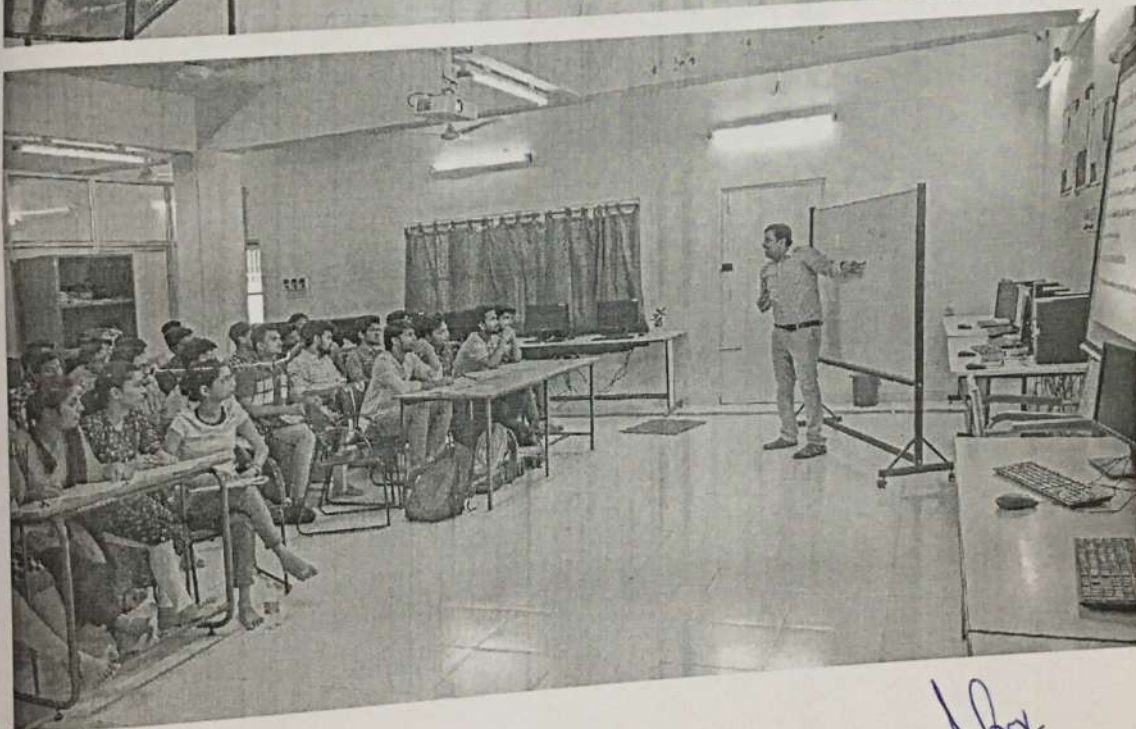
The objective of the program was also to address some of the POs not dealt by Mathematical Foundation for Computer Applications subject syllabus in the curriculum. This program addresses PO7, PO8 and PO11. Feedback was taken from the students on the achievement of these POs and the result is shown in the table below:

Sl. No.	PO	Expected Target	Achieved Target
1	PO7	60%	98.2 %
2	PO8	60%	100 %
3	PO11	60%	96.4 %

PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
Sir M. Visvesvaraya Institute of Technology
Munakamahanahalli, Bangalore-562 167

Sneha Bharti
Program Co-ordinator

GRAPH THEORY AND ITS APPLICATIONS IN COMPUTER SCIENCE
16th May 2023- Student Development Programme



Sneha Bharti
Sneha Bharti, Raghavendra Rao B G & Vani Harave
Program co-ordinator

Dr. Vanipriya CH
Dr. Vanipriya CH
HOD
PROF & HEAD
MASTER OF COMPUTER APPLICATIONS
M. Visvesvaraya Institute of Technology
Dinasamaranahalli, Bangalore-562 157

GRAPH THEORY AND ITS APPLICATIONS IN COMPUTER SCIENCE
16th May 2023- Student Development Programme
FEEDBACK SUMMARY

Name	Department	Semester	Contact number	1. The session delivered the information expected to receive	2. The resource person was knowledgeable and the presentation of the concepts were good	3. Have this programme increased your ability to engage in independent learning	4. This SDP has helped you in applying the concept of Graph theory in real time applications and managing the project on it	5. With the Knowledge gained from this programme will you be able to work in a multidisciplinary environment as an individual member or a team player	6. Any other comments/suggestions
Veena N Kasnmi	MCA	1st	9740396304	Strongly agree	Strongly Agree	Yes	Yes	Yes	No
Ranjan ANUPAM KUMAR	Mca	1st	8969305441	Strongly agree	Agree	Yes	Yes	Yes	Very nice
	MCA	1st	7766925454	Agree	Agree Strongly	Yes	Yes	Yes	EXCELLENT TEACHER
Navya k s	MCA	1st	8147007175	Strongly agree	Agree	Yes	Yes	Yes	no
Varshitha K S Mookambika	MCA	First 1st	8431916049	Agree	Agree	Yes	Yes	Yes	It was a useful session.
B y jaykishnoraan y@gmail.co	MCA	sem	9353751544	Agree	Agree Strongly	Yes	Yes	Yes	I was really wonderfull His teaching style and
	Mca	1st	6372829784	Strongly agree	Agree	Yes	Yes	Yes	techniques to involve students teaching is well and cover all
Ravishsingh	MCA	1	9987437566	Agree Strongly	Agree strongly	Yes	Yes	Yes	the concepts of graph
Narendra	MCA	1st	8867577941	disagree	disagree strongly	Yes	Yes	Yes	Very good
Vidya B J	MCA	sem	9108138157	Agree	Agree	Yes	Yes	Yes	

Sneha Bharti

Dr. M. Visvesvaraya
Munassemerenattali Bangalore-562 107



SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

“ KALA KAUSTUBHA ”

The Techno-Cultural Ensemble of Sir MVIT

Chair: Dr. S. K. UMA

Professor & Head, Dept of Maths

Susamskriti - The Cultural Encapsulate

Vice Chair : Mr. K.V.R. PRASAD

Associate Prof., Dept of Civil Engg

Sl. No.	Name of the Club	Name of the Faculty Mentor
1.	Music Club – “SUNAADA”	Chandrasekhar B Assistant Professor Dept of ME
2.	Dance Club - “LAASYA”	Chaya T. Y. Assistant Professor MATHS
3.	Fine Arts Club – “KALAKRITI “	Krishnapriya Sharma Associate Professor Dept of ECE
4.	Theatre Club – “RANGATARANGA ”	Praveena Assistant Professor Dept of ECE
5.	Literary Club – “ALEKHYA”	Sai Shreeya Anwesa Assistant Professor Dept of ENG
6.	Kannada Club – “HONGIRANA “	Rajeshwari K. N. Assistant Professor Dept of ECE
7.	English Club – “YAAVANI “	Dr. Anitha Assistant Professor Dept of ENG
8.	Sports Club – “CHETANA”	Dr. Rajesh Director Physical Education Dept.
9.	ECO Club – “NISARGA”	Dr. Sudevi Basu Assistant Professor Dept of BT
10.	Social Outreach Club – “SPANDANA”	Dr. Rashmi K. V. Associate Professor Dept of BT
11.	Indian Knowledge System Club – “ VIDYA BHARATHI”	Sreelakshmi T Assistant Professor Dept of ETE
12.	Club for conduction of AICTE / VTU Initiated activities – “ SAMBHRAMA”	Prashanth BB Assistant Professor, CIP
13.	Photography Club – “SUCHITRA”	Manohar R Assistant Professor Dept of ISE
14.	Press Club – “ PRACHAARA”	Dr. Jagadeesha Kumar B Associate Professor Dept of BT
15.	YOGA club – “VIKASANA”	Sheetal Bagali Assistant Professor Dept of ECE



SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

“ KALA KAUSTUBHA ”

The Techno-Cultural Ensemble of Sir MVIT

Sutantra – The Technical Encapsulate

Vice Chair: PHANINDER RAVI P.
Assistant Professor, Dept of ECE

Sl No.	Name of the Club	Name of the Faculty Mentor
1.	Innovation Club	Dr. Jagadeesha Kumar B Associate Professor , Dept. of BT
2.	ROBOTICS & Computer Vision Club	Dr. Parthasarathy V. Associate Professor , Dept. of EEE
3.	The Passionate Coders Club – GLUG	Dr.Sumaswamy Professor Dept. of CSE
4.	E-Cell –Entrepreneurs Club	Dr. Priya Narayan Professor Dept. of BT
5.	Automobile HUB	Halesh S. B. Associate Professor , Dept. of MECH
6.	Soft-Tech HUB	Latha R. Associate Professor , Dept. of MCA
7.	Under 25	Tania Thomas Assistant Professor, Dept. of MBA

PROFESSIONAL BODIES

	PROFESSIONAL BODY	FACULTY MENTOR
8.	IEEE Student Branch	Phaninder Ravi P Assistant Professor , Dept. of ECE
9.	IETE Student Branch	Dr E Kavitha Professor & Head Dept. of ETE
10.	ISTE Student Branch	Dr Supriya VG Professor , Dept. of ECE
11.	ASME Student Chapter	Dr Shanmukharadhya Prof & Head Dept. of ME

12.	CSI Student Chapter	Dr Vani Priya CH Prof & Head , Dept. of MCA
13.	ICI student Chapter	Dr Ravi Kumar Prof & Head Dept. of Civil Engg & Ramya N Assistant Professor Dept. of Civil Engg
14.	NPTEL SPOC [Single Point of Contact]	Dr. Sowmya Patil Associate Professor, Dept. of CSE
Centers on Independent Charge initiated by GOVT of India/ AICTE /GOK		
15.	Centre for Industry Institute Interaction - CIII	Dr E Kavitha Professor & Head Dept. of ETE
16.	Institute Innovation Council – IIC	Dr Vani Priya CH Prof & Head , Dept. of MCA
17.	Intellectual Property Rights Cell -IPR	Dr Mahesh K V Professor, Dept. of EEE
18.	ICC [Internal Compliance Committee]	Dr S K Uma Professor & Head, Dept. of Maths

Applications are invited from 5th and 3rd Semester students for the Office Bearer's post for all these clubs. Application form can be had from the Reception Desk at the entrance of the Administrative Block. Completed application forms should be submitted to Chairperson Dr. S.K. Uma on or before 5th December 2022.

As 7th Semester students will be busy with their placements and project work, they will not be given any responsibility officially. However, they are most welcome to be part of these clubs and participate in any of the events conducted. They are also welcome to guide the office bearers in planning and execution of the activities.


Principal

Copy to :

1. Academic Committee Chairman
2. faculty@sirmvit.edu
3. Office Manager
4. All Notice Boards
5. File

**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY**

REF. No. MVIT/BT/ /2022-123

Date: 18.01.2023

**REPORT ON
3 - DAY NATIONAL SEMINAR ON
"BIOTECHNOLOGY FOR BETTER LIFE" - INNOVATIONS AND ADVANCES
TOWARDS SUSTAINABLE DEVELOPMENT
15-17 December, 2022**

The field of Biotechnology has diversified into different domains encompassing Health Care, food and Nutrition, Agriculture, and the interdisciplinary areas of Biosensors, Computational Biology, Biomaterials, Bio concrete, Energy, and Environment. In the wake of the Pandemic, this area has gained utmost importance reaching the lives of millions of individuals via Vaccination and therapy. It is in these crucial times that the Department has focused on the theme of the conference as “Biotechnology for Life”

Biotechnology has permeated several areas of everyday existence including healthcare, agriculture, food, energy and environment. The confluence of Biotechnology with different branches of engineering has spawned the growth of several diverse industries in the areas related to Biofuels, Biosensors, Biomedical devices, Bioinformatics and similar state-of the art inter- disciplinary technologies.

Innovation as a process requires effective participation of individuals from different sections/divisions of an enterprise, such as technical experts in R & D, marketing, management, finance, legal, etc., apart from outside consultants, venture capitalists, component manufacturers, service providers, business partners and lead users. As there are many players involved in facilitating the market success of an innovation, the effective use of the tools of IP will play an important role in not only facilitating the process of taking innovative technologies to the market place but also in enhancing competitiveness of technology-based enterprises. The recent and continuing advances in the life sciences are making a reality of the prediction that this will be the century of biotechnology. Capturing the economic, environmental, health and social benefits of biotechnology will challenge government policy, public information, law, education and the scientific and technological infrastructure, and will affect our societies and many aspects of our life as profoundly as information technologies have already done. Such scientific advance has the potential to enable better outcomes for health, the environment, and for industrial, agricultural and energy production. Successful capture of these will provide significant opportunities for sustainable growth. Among the recently-evolved scientific developments, biotechnology has many applications that can improve resource-use. It involves the manipulation of organisms to undertake specific processes and includes genetic manipulation or ‘engineering’. Sustainable development in India encompasses a variety of development schemes in social, cleantech (clean energy, clean water and sustainable agriculture) and human resources segments, having caught the attention of both Central and State governments and also public and private sectors. Previous dialogues on sustainability have more or less focused on climate change and environmental issues, but the new paradigm of sustainability, as negotiated over the last three years for this summit includes all efforts towards an inclusive, sustainable and resilient future for people and the planet.

PROGRAM SCHEDULE

3 -DAY NATIONAL SEMINAR ON

"BIOTECHNOLOGY FOR BETTER LIFE" INNOVATIONS AND ADVANCES TOWARDS SUSTAINABLE DEVELOPMENT

15th - 17th DECEMBER, 2022 ; VENUE: CS SEMINAR HALL, MAIN BUILDING, SIR MVIT, CAMPUS

15-12-2022	DAY 1 - THURSDAY	THEME : HEALTHCARE
8.30 AM - 9.30 AM	REGISTRATION	
9.30 AM - 10.45 AM	INAUGURATION	CHIEF GUEST: Prof. G PADMANABAN Former Director and Hon. Professor, Indian Institute of Science, Bangalore
10.45 AM - 11.00 AM	HIGH TEA	
11.00 AM - 11.30 AM	PLENARY TALK - 1	SESSION CHAIR: Dr. V N Balaji, Director, Independent Drug Discovery Research, Bangalore • Dr. Taslimarif, CEO and Director, C-CAMP, Bangalore
11.30 AM - 1.00 PM	PANEL DISCUSSION	SESSION CHAIR: Dr. Utpal S. Tatu, Professor, IISc, Bangalore • Dr. Vinaya Anand Suratkai, Podiatrist, JIVAS, Bangalore • Dr. Ashwini Godbole, Associate Professor, TDU, Bangalore • Dr. Anurag Tiwari, Principal Scientist, R & D, Zumutor Biologics, Bangalore • Dr. Suresh Joel, Senior Product Owner (AI and Medical Imaging), GE Healthcare, Bangalore • Dr. Harish S, Founder Director and CEO, ICBio, Bangalore • Mr. Soma Sundar K, Clinical Data Manager, IQVIA, Bangalore
1.00 PM - 1.30 PM	LUNCH	
1.30 PM - 3.30 PM	ORAL PRESENTATIONS POSTER PRESENTATIONS	JURY PANEL (ORAL): Dr. R K Shandil, Founder Director and Vice President, FNDR Dr. U V Babu, Head, Himalaya Drug Company, Bangalore JURY PANEL (POSTER): Dr. Ramesh Mavattur, Head Genomics, SVYASA, Bangalore Dr. Madhura M G, RV Dental College, Bangalore
16-12-2022	DAY 2 - FRIDAY	THEME : FOOD AND AGRICULTURE
9.30 AM - 10.00 AM	PLENARY TALK - 2	SESSION CHAIR: Dr. V Sundaresan, Principal Scientist, CIMAP, Bangalore • Dr. Latha Damle, Chief Scientific Officer, Atrimed Biotech, Bangalore
10.00 AM - 10.30 AM	PLENARY TALK - 3	• Dr. Ramasamy S. Annadurai, Consultant, ITC Life Sciences and Technology Centre, Bangalore
10.30 AM - 11.00 AM	COFFEE/TEA	
11.00 PM - 12.30 PM	PANEL DISCUSSION	SESSION CHAIR: Dr. Balasubramanya, General Manager, ABLE, Bangalore • Dr. Prasanna Bhat, APAC Breeding Deployment Systems Lead, Bayer Crop Science, Bangalore • Dr. Yugandhar Reddy, Senior Research Scientist, Unilever India Pvt Ltd, Bangalore • Dr. Sumangala Bhat, Executive Director, Dextrose Technologies Private Ltd., Bangalore • Dr. Kiran Karireddy, C-Camp, BIRAC, Bangalore
12.30 PM - 1.00 PM	LUNCH	
1.00 PM - 3.00 PM	ORAL PRESENTATIONS POSTER PRESENTATIONS	JURY PANEL (ORAL): • Dr. C Ganesh, Co-Founder, Tranalab Private Limited, Bangalore • Dr. Soumitra Banerjee, Scientist R & D, CHRC, Jyothy Institute, Bangalore JURY PANEL (POSTER): • Dr. Vidya Pradeep Kumar, Research Scientist, ICAR-Institute of Animal Nutrition, Bangalore • Dr. S. Rajeev Kumar, Scientist and Head, Cellular Engineering, String Biosciences, Bangalore
17-12-2022	DAY 3 - SATURDAY	THEME : ENVIRONMENT AND SUSTAINABILITY
9.30 AM - 10.00 AM	PLENARY TALK - 4	SESSION CHAIR: S. Nagarajan, Former MD, Mother Dairy and Venture Partner, Omnivore, Bangalore • Dr. Senthilkumar Radhakrishnan, Dean, GPS Institute of Agricultural Management, Bangalore
10.00 AM - 10.30 AM	PLENARY TALK - 5	• Dr. Irma Veronika Marla, Chairperson, International Institute for Holistic Research and Voluntary Action (India-Germany + Rural Business H)
10.30 AM - 11.00 AM	COFFEE/TEA	
11.00 AM - 12.30 PM	PANEL DISCUSSION	SESSION CHAIR: Gayatri Handanahal, Managing Trustee, Waste Impact Trust, Bangalore • Purshottam Hunsigi, Managing Director, Green gold Petro Mines PVT Ltd, Bangalore • Mallesh T, Founder & CEO, cultVvate, Bangalore • Shrinivasan V Bandlamori, Director & CEO, Aspartika Biotech Pvt Ltd, Bangalore • Dr. Dayanand C, Founder & CEO, EZE Biotech • N C Sashidhar, CEO & MD, AMS India • Dr. Lakshmi, Associate Prof. SJBIT
12.30 PM - 1.00 PM	LUNCH	
1.00 PM - 3.00 PM	ORAL PRESENTATIONS POSTER PRESENTATIONS IDEATION	JURY PANEL (ORAL): • Kumaraswamy D. R., Retd. Chief Environmental Officer, KSPCB, Bangalore • Dr. Darshan Narayan, Scientist, India Zoo Risk, Project BR Hills JURY PANEL (POSTER): • Dr. Shruthi SD, CEO, BioEdge Solutions, Bangalore • Dr. Mousumi Mondal, Director, Mallipatra, Bangalore JURY PANEL (IDEATION): • Nitish Sathyanarayan, Co-founder and CSO, Impress Health, Bangalore • Anil Jayaprakash, Head of projects, Co-créeate, Bangalore • B G Harish, Coordinator, Villgro, Bangalore
3.30 PM - 4.30 PM	VALEDICTORY	CHIEF GUEST: Dr. Kamal Taori, IAS ret'd Former secy to govt of India and You tube rural business hub and Vice chancellor Panchgavya Vidyapeeth Kanchipuram, Tamil Nadu and National President, unAcce and IHRA, India

Target Audience: 500 UG/PG/PhD/Industry

RESOURCE PERSON

1. Dr. R K Shandil, Founder Director and Vice President, FNDR
2. Dr. C Ganesh, Co-Founder, Tranalab Private Limited, Bangalore
3. Mr. Kumaraswamy D. R. Retd. Chief Environmental Officer, KSPCB, Bangalore
4. Dr. Darshan Narayan, One Health Scientist, Govt. of Karnataka
5. Dr. Ramesh Mavattur, Head Genomics, SVYASA, Bangalore
6. Dr. Manish Thakur, Head, Scientific Operations, Genei Laboratories Pvt Ltd, Bangalore
7. Dr. Soumitra Banerjee, Scientist R & D, CIIRC, Jyothy Institute, Bangalore JURY
8. Dr. S. Rajeev Kumar, Scientists and Head, Cellular Engineering,
9. String Biosciences, Bangalore
10. Dr. Shruthi SD, CEO, BioEdge Solutions, Bangalore
11. Dr. Mousumi Mondal, Director, Mallipatra, Bangalore

IDEATHON was conducted as part of the 3-Day National Seminar organised by Department of Biotechnology, Sir MVIT during 15-17 December, 2022. A total of 20 groups registered for the event. An activity was conducted on 15th December to initiate the registered groups to make a choice of the respective topics. They were given 48 hours duration to come up with a solution for the problem statement of their choice. On 17th December, the final round of the event was conducted where each group presented their idea to the jury panel. They were judged & awarded marks based on their creativity, uniqueness and presentation skills.



FDP Report

- The FDP was started with inauguration with the hands of Professor G. Padmanaban, Padma Bhushan, Former Director, IISc. Chancellor, CUTN, NASI Honorary Scientist, Science and Innovation Adviser, BIRAC, GoI.
- From 15th & 16th, 05 lecture sessions were held, invited 5 resource persons from different organizations like DEBEL-DRDO, IISc. RVCE, MSRUAS, GE Healthcare to deliver their talk on the theme of the FDP. The detailed programme schedule is enclosed with this report.
- For this FDP total registered participants were 30 in numbers from different engineering faculty members
- On 15th of December 2022, Dr. H. G. NAGENDRA, Professor & Head department of Biotechnology welcomed the participants. He explained about the importance of Biology for engineers subject for engineering students in current trends towards interdisciplinary activity. This was followed by expert lectures and syllabus discussion according to module wise.
- On 16th of Dec 2022 vote of thanks of the program and certificate distributed and feedback was collected.
- A good majority of the participants expressed their satisfaction about the FDP theme and subject covered in the respective lecture sessions and discussion
- We are very thankful to the Management Sri KET, VTU and Principal SIR M VIT, HOD faculty's volunteers and Coordinator for making this FDP a grand success.
- **Outcome of the FDP:** We could observe the benefits derived out of this Faculty Development Programme (FDP) in the form of enhanced knowledge of the participants in the Biology for engineers subject.

Feedback and suggestions

- Blowup of syllabus should be develop according to the module.
- Module question paper and MCQ need to be prepare.
- Case study examples related to application of biology towards modules/products/medical applications need to be incorporated.
- Suggested that inclusion of basics of biology contents related to biomolecules/ fundamentals of biology.
- University notes to be prepared for betterment of non-biology students.
- Participants suggested that this biology for engineers should be consider as open elective subject.
- The syllabus is too advanced for non-biology students, modification is required.
- This FDP programme need to be carried out again for further discussion on clarity a.bout how much content has to be taught

Below are the glimpses of the Faculty Development Programme:

A Two Day FDP on "Biology for Engineers"	
Date: 15 th and 16 th December 2022	
DAY-1: 15.12.2022 THURSDAY	PROGRAMME SCHEDULE
08.30 AM - 09.25 AM	REGISTRATION
09.30 AM - 10.30 AM	INAUGURATION
10.30 AM - 11.00 AM	TEA BREAK
11.00 AM - 01.00 PM	EXPERT LECTURE -1 AND DISCUSSION SESSION (MODULE 1)
01.00 PM - 01.30 PM	LUNCH BREAK
01.30 PM - 04.00 PM	EXPERT LECTURE -2 AND DISCUSSION SESSION (MODULE 2)
DAY-2: 16.12.2022 FRIDAY	PROGRAMME SCHEDULE
09.30 AM - 11.00 AM	EXPERT LECTURE -3 AND DISCUSSION SESSION (MODULE 3)
11.00 AM - 11.30 AM	TEA BREAK
11.00 AM - 1.00 PM	EXPERT LECTURE -4 AND DISCUSSION SESSION (MODULE 4)
01.00 PM - 01.30 PM	LUNCH BREAK
1.30 AM to 3.30 PM	EXPERT LECTURE -5 AND DISCUSSION SESSION (MODULE 5)
3.30 PM to 4.00 pm	CONCLUDING SESSION



Dr. N S Kumar, DEBEL



Dr. Vidhi Prasad, GE



Dr. Nagashree Rao,
RVCE



Dr. Joel Joseph,
IISc



Dr. David Henry,
MSRUAS



COORDINATORS

DR. NAGENDRA H G

DR. JAGADEESH KUMAR D

DR. PRIYA NARAYAN

REPORT

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY, BENGALURU - 562157
DEPARTMENT OF BIOTECHNOLOGY



Cordially Invites One & All to the
World Cancer Day Commemorative Event

on

Friday, the 3rd February 2023

Venue : CS Seminar hall

Sir MVIT Campus



SPANDANA
Social Outreach Club



Every year, 4th of February is commemorated as **World Cancer Day**, to raise due awareness, dispel myths, provide accurate information, motivate proactive initiatives, and thus reduce the hazardous healthcare burden.

The discussion platforms are also towards instilling confidence and make a positive difference to the lives of people with cancer and cancer-survivors, and more importantly, to the care-takers of such population.

Session 1: 9.30 am - 10.45 am

RESOURCE PERSONS

Ms. Ashitha Steffi J.

Associate, Donor Recruitment

Mr. Mahamithra S.R.

Senior Associate, Donor Recruitment

Mr. Prajeet Sudhakar

Deputy Manager, Donor Recruitment

TITLE OF THE TALK

Blood Cancer, Blood Stem Cell Transplantation
and Donor Registration Drive

DKMS-BMST Stem Cell Campaign

DKMS BMST
WE DELETE BLOOD CANCER

DKMS BMST Foundation India
Indiranagar 1st stage, Bengaluru-560038, India

Session 2: 11.00 am - 12.15 pm



Invited Talk On

Advancing Therapeutic Drug Discovery :

Evaluation of Drug Safety and Prioritization of Investigational Drugs

by

Dr. Chaitanya N. Hiremath, PhD, Boston, MA, USA

Session 3: 2.00 pm - 3.00 pm



Dr. Punyashree R.M.

Associate Consultant-Gynaec Oncology

Cytecare Cancer Hospitals

Bengaluru-560064

Invited Talk

On

Gynaec Oncology

Event Name: World Cancer Day Commemorative Event and Stem Cells Donation Registration Drive

Event Date and Time: 03 February 2023, 9:30am-3:00 pm

Venue: CS Seminar Hall, Sir MVIT

Faculty Co-Ordinator of Spandana: Dr Rashmi KV

Number of hours spent: 5 hours

Number of Volunteers: 20

Number of Participants: 114

Units of Registrants for Stem Cell Donation: 222

Overview of the event:

“World Cancer Day Commemorative Event and Stem Cells Donation Registration Drive” was organized on 3rd February 2023 by joint association of SPANDANA social outreach club of Sir MVIT and Department of Biotechnology, Sir MVIT and DKMS BMST. Every year, 4th of February is commemorated as World Cancer Day, to raise due awareness, dispel myths, provide accurate information, motivate proactive initiatives, and thus reduce the hazardous healthcare burden. The discussion platforms are also towards instilling confidence and make a positive difference to the lives of people with cancer and cancer-survivors, and more importantly, to the care-takers of such population.

Session 1: Blood Cancer, Blood Stem Cell Transplantation and Donor Registration Drive by DKMS-BMST:

The event started at 9.30AM. Dr Rashmi KV welcomed the gathering and introduced the facilitators from DKMS-BMST. Ms. Ashitha Steffi J. Associate, Donor Recruitment gave introductory remarks on blood cancer and blood related disorders, Mr. Mahamithra S.R. Senior Associate, Donor Recruitment highlighted the importance of stem cell donation to needy patients and the process associated with stem cell donation. DKMS-BMST is an international stem cell registry that works towards its mission of giving every blood cancer patient a second chance at life, by raising awareness about the importance of stem cell donations and thereby, increasing the number of potential donors in India. After this session donor registration form was given to all the interested volunteers and buccal swab samples were collected.

Session 2: Advancing Therapeutic Drug Discovery: Evaluation of Drug Safety and Prioritization of Investigational Drugs:

After the tea break the second session of the event by Dr. Chaitanya N. Hiremath started at 11AM. Prof. H. G. Nagendra introduced the speaker to the gathering. Dr. Chaitanya Hiremath is a distinguished drug discovery scientist, educator, advisor, mentor, reviewer, founder, and inventor, specializing in Bioinformatics and Cheminformatics. He has a Master's degree in Solid State Physics and a Ph.D. in Molecular Biophysics. He was awarded the Gold Medal in Physics and the State Award in Science among others. He was a senior fellow at Harvard Medical School and a visiting scientist at Massachusetts Institute of Technology. Dr. Hiremath has world-class academic, teaching, and biotechnology industry experience. Dr Chaitanya has detailed on his patented APOD methodology for drug discovery has proved beneficial in the prioritization analysis of safety profiles of COVID-19

drugs. He also explained his science education, open-access peer-reviewed paper on the BIIG problem-solving method that he developed to enhance the students' learning experience in science, has over 18000 downloads worldwide. Dr. Hiremath has been granted a patent for the design of the World Flag based on the scientific tree of life. He has given several invited talks at international conferences and meetings including the United Nations. Prof. Hiremath spoke about his initiative SEALOEarth. SEALOEarth (pronounced as, seal-o-earth), stands for “Serene Environment And Life On Earth”, and its mission is to heighten awareness of the responsibility of all people to manage global resources in a sustainable way, regardless of an individual’s country of origin, cultural background, spoken language, or religion.

Session 3: General awareness on cancer – prevention, causes, diagnosis and treatment.

Post lunch session was by Dr. Punyashree R.M. Associate Consultant – Gynaec Oncology, Cytecure Cancer Hospitals. In this expert session doctor highlighted the various causes of cancer, ways to reduce them by preventive measures, importance of early diagnosis and regular health check-ups for mid aged women and men. She also highlighted on the various treatment strategies available for various cancers.

After all the three sessions Dr Rashmi K V thanked all the resource persons, volunteers and participants. All the participants were given with an e-feedback form and e-certificate for participation.

In order to eliminate cancer we need to work on three parameters, 1. Awareness 2. Drugs discovery and research 3. Willingness to donate stem cells and blood components. The event planned to cover all the three areas. Students highly appreciated all the sessions and event was successful.

Dr Rashmi K V
Faculty mentor- SPANDANA
Associate Professor, Department of Biotechnology

CERTIFICATE BY DKMS-BMST



Certificate of Appreciation

On behalf of the countless blood cancer patients
and their family members, we thank

SPANDANA CLUB, SIR M. VISVESHWARAYA INSTITUTE OF TECHNOLOGY

for the support to the DKMS BMST Foundation India on *3rd FEBRUARY, 2023*

A handwritten signature in black ink, appearing to be 'R I'.

Mr. Patrick Paul
Chief Executive Officer

DKMS BMST Foundation India
723, CMH Road, Indiranagar 1st Stage, Bangalore - 560038, Karnataka,
India T +91 80 6828 6500 | dkms-bmst.org

Thanking Note from DKMS-BMST



Dear Ms. Rashmi,

We express our sincere thanks to **Sir M Visveswaraya Institute of Technology** for facilitating a DKMS-BMST donor drive on 3rd February, 2023.

You would be happy to know that **222** persons signed up as potential stem cell donors. Their buccal swab samples will be tested and the anonymized results (only age, sex, HLA typing) will be made available on the worldwide registries which are searched daily for patient-donor matches.

We thank all the volunteers who helped us conduct the donor drive and their sincere efforts in making the event a success. We look forward to continued support from you and your organization to the cause of supporting blood cancer patients looking for matched stem cell donor.

Thanking you.

Yours sincerely,

Sayantan Datta Gupta

Mr. Sayantan Datta Gupta
Deputy General Manager – DR & FR

Photos of the Event





SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, Off International Airport Road, Bangalore-562 157.



(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph No. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



Ref: No.VIT/OFF/ /2021-2022

Date: 6.12.2021

From,

**Dr. G. M. Krishnaiah, Professor & HOD of Chemistry &
Dr. Hariharan, Associate Professor & HOD of Physics.**

To,

**The Registrar,
Visvesvaraya Technological University (VTU),
Belagavi, Karnataka State, India.**

Through: The Principal, Sir MVIT, Bengaluru-562157

Sir,

Subject: Submission of the “**Report of Constitution Day celebrations**”
at our College---- regarding

Ref No: VTU/PS/ 2021-22/3787, dated 25-11-2021

With reference to the above circular received from VTU, and as per the instructions of our Principal of Sir MVIT, we had conducted a program on “**Constitution Day**” to our college staff and students on 26-11-2021.

We are herewith enclosing the “**Report of Constitution Day celebrations**” along with photos for your kind information. We thank the VTU on behalf of our Management Sri. KET, College, Principal, HoDs, Staff and Students of Sir MVIT for given an opportunity to conduct **Constitution Day** program.

Thanking you,

Yours sincerely

Sd/-

[Dr. G.M. KRISHNAIAH]

And

[Dr. HARIHARAN. N]

Report of Constitution Day Celebrations on 26-11-2021

The Principal Dr. V. R. Manjunath of Sir MVIT, Staff (both Teaching and Non-Teaching) and Students have participated during the Constitution Day celebrations on 26-11-2021 held at Sir MVIT Campus.



Principal Dr. V. R. Manjunath addressing the Staff and Students during the “Constitution Day”.



Principal Dr. V. R. Manjunath with the Staff and Students during “Constitution Day”.



**Principal Dr. V. R. Manjunath administering the oath
along with the staff members of Sir MVIT**



**Principal Dr. V. R. Manjunath administering the oath
to the staff and students of Sir MVIT**



ECE CLUB INAUGURATION REPORT

2022-23



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU- Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Hunasamaranahalli, Via Yelahanka, Off International Airport Road, Bengaluru-562157



Department of Electronics and Communication Engineering



Smaller steps.....

towards Bigger Impact

InnovECE

REPORT

Event name: ECE Club Inauguration

Event date and time: 29 May 2023 , 11:00 am – 12:00 pm

Venue: Marconi Seminar Hall, Sir MVIT

Introduction:

The much-awaited inauguration ceremony of the InnovECE Club took place on 29th May 2023 at Marconi Seminar Hall. The event was a resounding success, bringing together students, faculty members, and dignitaries to mark the official launch of this prestigious club. The aim of the InnovECE Club is to foster innovation, creativity, and collaboration among students in the field of Electronics and Communication Engineering.

Welcome Song:

The ceremony began with a devotional welcome song performed by a Pradeepthi, student of ECE. The enchanting melody filled the air, setting a serene and spiritual tone for the event.

Welcome to Dignitaries:

Following the welcome song, the dignitaries were welcomed to the auspicious inauguration. Respected professors, volunteers and students of ECE department were honoured and acknowledged for their valuable presence at the event. Their support and guidance were instrumental in shaping the InnovECE Club.

Lighting of the Lamp:

The traditional lighting of the lamp ceremony was conducted to invoke blessings and symbolize the dispelling of darkness with the light of knowledge. The Head of the Department, along with the presented dignitaries, lit the ceremonial lamp, signifying the auspicious beginning of the InnovECE Club.

Introduction of club:

Next, an introduction segment took place to familiarize the audience with the purpose and goals of the InnovECE Club. Deepthi, student of ECE provided an overview of the club's objectives and highlighted the importance of fostering innovation and collaboration among the students.

Speech by Head of Department (HOD):

The Head of the Department of Electronics and Communication Engineering, Dr V G Supriya, delivered an inspiring speech, emphasizing the importance of fostering innovation in today's rapidly evolving world. The HOD praised the establishment of the InnovECE Club and encouraged students to actively participate and contribute to its success.

Speech by Faculty Members:

Faculty members who have been actively involved in the establishment and development of the InnovECE Club addressed the audience. They shared their experiences, insights, and expectations for the club, inspiring the students to think beyond the conventional boundaries of engineering and explore innovative ideas and projects.

Inauguration of the InnovECE Club:

The highlight of the ceremony was the official inauguration of the InnovECE Club. The dignitaries and club members gathered on stage as the club's name and club's logo was unveiled. This symbolic act marked the beginning of a new era, where students would have a platform to collaborate, innovate, and contribute to the field of Electronics and Communication Engineering.

Conclusion:

The inauguration ceremony of the InnovECE Club was a grand success, igniting a spark of innovation and creativity among the students. The event provided a platform for students, faculty, and dignitaries to come together, share their knowledge, and inspire each other. With the inauguration complete, the InnovECE Club looks forward to organizing various activities, workshops, and competitions to further enhance the innovative spirit among the students and contribute to the advancement of the field.

Volunteers:

D H Gowda 4th year ECE
Spoorthi P K 4th year ECE
Bindhushree 4th year ECE
KrishnaChaitanya I S 4th year ECE
K S Bhavishya 4th year ECE
Shaik Areef 4th year ECE
Sudesh 4th year ECE
Devika A 4th year ECE
N B Vidhyashree 4th year ECE
Sricharan R Iyengar 4th year ECE
Gudikal sai vamsi 4th year ECE
Yashwanth reddy 4th year ECE
Varshikha K V 3rd year ECE
Pavithran G 3rd year ECE
Arani Gnanesh Reddy 3rd year ECE
Hitha 3rd year ECE
Deepthi 3rd year ECE
Lavanya 3rd year ECE
Thasmeen 3rd year ECE
Subramanium 3rd year ECE
Gagana 3rd year ECE
Kamyashree 3rd year ECE
Girish Reddy 3rd year ECE
Sindhur Sai Anne 2nd year ECE
Vikshitha V 2nd year ECE
Chinmayi G S 2nd year ECE
Varun B Raj 2nd year ECE
Nishmitha Pinto 2nd year ECE
Pradeepthi 2nd year ECE













SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli,
Bengaluru - 562 157



SPANDANA
Social outreach club

*In association
with*



CYTECARE
CANCER HOSPITALS

Organizes

HEALTH CHECK-UP DRIVE FOR ALL STAFF

MARCH 17, 2023

10AM TO 3PM

VENUE: ROOM NO. NB 005

What to Expect:

General BMI Check
Blood Pressure Check
Random Blood Sugar Check
Physician Consultation
Physiotherapist Consultation





SPANDANA
Social outreach club



Event Name: Health Check-up drive for staff

Event Date and Time: 17 March 2023, 9:00 am-3:30pm

Venue: NB 005, Sir MVIT

Faculty Coordinator of Spandana: Dr. Rashmi K.V.

Number of hours spent: 7 hours

Number of Volunteers: Spandana: 9

Collaboration with: Cytecure

hospital

Number of staff members: 93

Volunteer list:

1MV21EE024	Khivan avtar
1MV21EE020	K uday ketan
1MV21EE058	Sumith
D-51	Vandhya.K
F-31	Sai skanda.U
M-14	Khushi Vyas
D-56	Vindya.k
J-11	Santosh Elde

REPORT

SPANDANA-the social outreach club of Sir MVIT along with Cytecure Hospitals organized a Health Checkup Drive for the college staff members on 17th March 2023. The purpose of this drive was to encourage staff members to prioritize their health and wellbeing by providing them with an opportunity to get their health checked.

A team of 7 medical professionals from Cytecure Hospitals including one general physician, one physiotherapist, one dietician extended their services on this health check up drive. Various tests such as blood pressure, blood sugar, cholesterol, and BMI measurements, and overall physical health.

The purpose of such a drive is to help identify potential health risks and issues among employees, and to promote preventative healthcare practices. The information collected during the health check-up can also be used to offer recommendations for lifestyle changes or further medical treatment as needed.

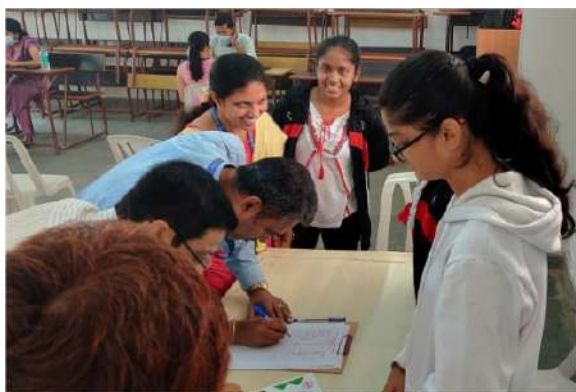
A health check-up drive for staff can be a valuable investment for an organization, as it can help to reduce healthcare costs in the long run by identifying and addressing health issues early on, and promoting healthy behaviors among employees. It can also help to boost employee morale and productivity by demonstrating a commitment to employee health and well-being.

A total of 93 staff including teaching, non-teaching, technical staff, drivers and facility maintenance staff availed the benefits of this drive. Principal of Sir MVIT, Prof. Rakesh S.G., Manager of Sir MVIT, Shri Babu Raju and many HoDs & senior professors also underwent the general health check-up and motivated the other staff.

The health checkup campaign was a great success, and many employees had the opportunity to undergo the checkup. Several staff members were found to have various health problems such as high blood pressure and high blood sugar. They were encouraged to seek further medical help and given tips for maintaining a healthy lifestyle, including a balanced diet, regular exercise, and stress management.

Dr. Rashmi K.V.
Faculty Mentor – Spandana
Event Coordinator

Snapshots of Health Check-up Drive





SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

ACTIVITY REPORT ON

**HANDS ON STUDENT DEVELOPMENT
PROGRAM ON “INTERNET ON THINGS”**

11TH ,12TH & 13TH APRIL 2023

ACADEMIC YEAR 2022-2023



SRI KRISHNADEVARAYA EDUCATIONAL TRUST
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Krishnadevarayanagar, Off International Airport Road, Hunasamarahanahalli, Bengaluru – 562 157



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
PRESENTS

STUDENT DEVELOPMENT PROGRAM ON "INTERNET OF THINGS"

DATE : 11-12-13 APRIL 2023
VENUE : CS SEMINAR HALL

BY
Dr. Sreenivasa Setty
CTO
SST Technologies Bangalore

Organizers
Dr. Savita Chaudhary
Mr. Suraj Kumar BP

Convenver
Dr. T.N Anitha
Professor & HOD

SCAN TO JOIN



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, International Airport Road, Bangalore - 562 157.

(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)



Ph No. : 080-2846 7248 / 2847 7024 / 25 / 26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu, sirmvitbgl@gmail.com, Web : www.sirmvit.edu



DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Ref. No. VIT/CSD/ 364/2022-2023

Date: 31/03/2023

A LETTER OF INVITATION

To,

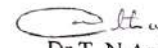
DR. SREENIVASA SETTY

CTO

SST TECHNOLOGIES, BANGALORE

On behalf of Computer Science & Engineering, Sir M V Institute of Technology. We are organized a hands on Student Development Program on the topic "Internet of Things" dated on 11.4.2023 and 12.4.2023 from 9.00 am to 4.00 pm. We kindly invite you has a resource person for the program. Kindly accept our invitation

Thank you Sir,

 31/3/23
Dr.T. N Anitha
HoD-CSE

Sir MV Institute of Technology
PROF & HEAD

DEPARTMENT OF COMPUTER SCIENCE & ENGG
Sir M. Visvesvaraya Institute of Technology
Hunasamaranahalli, International Airport Road,
Bangalore - 562 157.

SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

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Ph No. : 080-2846 7248 / 2847 7024 / 25 / 26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu, sirmvitbgl@gmail.com, Web : www.sirmvit.edu

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING



Ref. No. VIT/CSD/364/2022-2023

Date : 31/03/2023

A LETTER OF INVITATION

To,
DR. SREENIVASA SETTY
PROFESSOR
DEPT OF CSE
BNMIT, BANGALORE.

On behalf of Computer Science & Engineering, Sir M V Institute of Technology. We are organized a hands on Student Development Program on the topic "Internet of Things" dated on 11.4.2023 and 12.4.2023 from 9.00 am to 4.00 pm. We kindly invite you has a resource person for the program. kindly accept our invitation

Thank you Sir,

alt. 5/4/23
Dr.T. N Anitha

HoD-CSE

Sir MV Institute of Technology
PROF & HEAD

DEPARTMENT OF COMPUTER SCIENCE & ENGG
Sir M. Visvesvaraya Institute of Technology
Hunasamaranahalli Off International Air Port Road,
Bangalore-562157.



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

BANGALORE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ref.No: Dept. of CSE. / 294 / 2022-23

Date: 16 -02-2023

The Principal,
Sir MVIT, Bengaluru-562157.



Respected Sir,

Sub: Permission to conduct Student Develop Programme on IOT-reg.

With reference to above subject, the department is planning to organize student development programme on IOT as per the curriculum requirement dated on 23rd and 24th February 2023. Kindly request to give permission for organizing SDP on IOT.

This is for your kind information and perusal.

Thanking you

yours faithfully

Dr. T.N Anitha
Prof & Head.
Dept of CSE,
Sir MVIT.

PROF & HEAD

DEPARTMENT OF COMPUTER SCIENCE & ENGG
Sir M. Visvesvaraya Institute of Technology
Hunasamaranahalli, Off International Air Port Road,
Bangalore-562157.

Permitted
By
20/2/2023

Encl : Quotation



SST Technologies

#944, 10th Cross, 1st Stage, Kumaraswamy Layout, Bangalore 560078
+91-9591091444 | +91-9113693073 | www.ssttech.in | info@ssttech.in

QUOTATION

To,
The Principal,
Sir MVIT
Bangalore -562 157

Date: 16-02-2023
GSTIN: 29HERPK4536K1ZN
Kind Attn: Dr. T N Anita CSE-Sir MVIT

Dear Sir/Madam,
Please find below the quotation for 2 days Student Development Program.

Sl No	Item	Quantity	Cost/member	Total(in Rs)
1	Two day's Hands on Student Development Program on "IoT and its Applications" Using NodeMCU	60 Members (Minimum)	500.00	30000.00

Total: 30000.00

Total amount in words: Rupees Thirty thousand only

Terms and conditions:

1. Taxes: 18% GST extra

Beneficiary Details

Name	SST TECHNOLOGIES
Acc. No	317605000188
Bank	ICICI BANK
Branch	KUMARASWAMY LAYOUT
IFSC	ICIC0003176

For: SST Technologies
Dr. Sreenivasa Setty
Chief Technical officer



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
BANGALORE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ref.No: Dept. of CSE. /CIS/ 2023-24

Date: 21-04-2023

The Principal,
Sir MVIT, Bengaluru-562157.



Respected Sir,

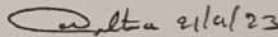
Sub: Reimbursement of amount spent on SDP on Internet of Things -
reg.

With reference to above subject, here we are submitting expenditure bills towards the student development program on IOT organized on 11th April 2023 for 8th semester students. Hence we are enclosed the expenditure occur towards the program. Kindly request to release the amount and do the needful.

Total amount spent =Rs.3080/-

Thanking you

yours Truly


Dr. T.N Anitha

Account No : 0247865868

Name of the Account – Anitha T.N.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Sir M. Visvesvaraya Institute of Technology
Hunasamaranahalli, Outer Ring Road, Bellary Port Road
Bangalore-562157.

Encl: Bills and Vouchers

OM SAI RAM ENTERPRISES

No. 52, Hosalli Main Road, Hunasamaranahalli
New International Air Port Road
Bengaluru- 562157.

Proprietor :

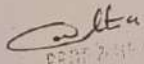
No. 219

CASH BILL

Date 11/04/23

M/s. Principal SIRMVI

Address.....

Sl. No.	PARTICULARS	Qty.	Rate	Amount Rs.	Ps.
	Sanasa	160	17	2720	00
 DEPARTMENT OF COMMERCE & ENGG Sir M. Viswaswaraiah Institute of Technology Hunasamaranahalli, Old International Air Port Road, Bengaluru-562157				Advance	
				Balance	
				TOTAL	2720/-

For OM SAI RAM ENTERPRISES

Thank You


Signature

Brought By

CASH / CREDIT
BILL

No. 68

Date 11/4/23

TAXES

6 1/2 lbs water 10 60

WASHER

DEPARTMENT OF COMMERCE SERVICE BUREAU

SUBV. DIVISION

HONG KONG

TELEPHONE 257-25

Behind KFL,
Bagalur Main Road, Baba Nagar
Bengaluru (Dist.) - 560 063.
Ph: 88614 36471 / 97414 3475


Authentic
CASH RECEIPT

Receipt No. **101** Date: **11/04/2**

Name **Harshit Gulugula**

Sl. No.	PARTICULARS	Rs.	Amount
	Budget	75	
TOTAL		75	

FOR MUDRA BANK
FOR HODAL PASHI

MTR

Ruppes in words

Signature



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY
BANGALORE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ref.No: Dept. of CSE. /SIC/2023-24

Date: 21-04-2023

The Principal,
Sir MVIT, Bengaluru-562157.



Respected Sir,

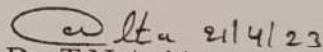
Sub: Reimbursement of amount spent on SDP on Internet of Things -
reg.

With reference to above subject, here we are submitting expenditure bills towards the student development program on IOT organized on 12th April 2023 for 8th semester students. Hence we are enclosed the expenditure occur towards the program. Kindly request to release the amount and do the needful.

Total amount spent =Rs.4450/-

Thanking you

yours Truly


Dr. T.N Anitha
PROF & HEAD

Account No : 0247865868

Name of the Account – Anitha T.N.

DEPARTMENT OF COMPUTER SCIENCE & ENGG
Sir M Visvesvaraya Institute of Technology
Hunasamaranahalli, Old International Air Port Road,
Bangalore-562157.

Encl: Bills and Vouchers

OM SAI RAM ENTERPRISES

No. 52, Hosalli Main Road, Hunasamaranahalli
New International Air Port Road
Bengaluru- 562157.

Proprietor :

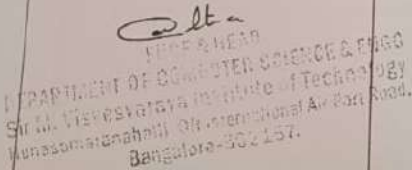
No. 220

CASH BILL

Date 12/4/23

M/s principal SIAMVET

Adress.....

Sl. No.	PARTICULARS	Qty.	Rate	Amount	
				Rs.	Ps.
-	Veg Rffs	160	17	2720	00
				Advance	
				Balance	
				TOTAL	2720/-

For OM SAI RAM ENTERPRISES

Thank You

Signature

DEPARTMENT OF SCIENCE & TECH
Sir M. Visvesvaraya Institute of Tech
Jungesamathanallu, Off International Air Port Road
Bangalore-562157.

8-1-1910 10 1 1 7. Ed. Moulton

Profile:



- Dr. Sreenivasa Setty pursued his Bachelors (B.E) in Electronics and Communication Engineering from Mysore University in 1990, M.S in Software Systems from BITS Pilani in 1999 and Ph.D (CSE) in Visweshwaraya Technological University (VTU), Belagavi.
- He has rendered his teaching service with practical hands on experience with a great devotion for over 32 long years in Top-notch technical institutes in Karnataka viz., MVJ College of Engineering, PES Mandya, Don Bosco Institute of Technology, AMC College of Engineering, Dayananda Sagar College of Engineering and R.V.College of Engineering, Bengaluru.
- He has authored one book and 15 technical articles in refereed journals and proceedings such as IEEE, Springer. His research interests include Microprocessor and Microcontroller, embedded system, IoT and image processing algorithms.
- He is a very humble and simple man who is always in the constant look out of stretching out his helping hand to his students through his expertise in technology in order to make them aware of day-to-day technological breakthroughs around the world and give our nation the best of Engineers.

- Having Strong communication and presentation skills, effective collaboration & team building capabilities with zeal to adapt to latest technological and leadership concepts & utilize the same in a productive and effective manner for the progress of the students and the society is his motto.
- He has hosted workshops in diverse domains of Technology in institutes like RVCE, DBIT, MSRIT, BGSIT, EWIT, DSCE, BGSIT, BMSIT, BNMIT, RRIT etc. As a result, he is a very likeable, student friendly and a popular teacher among the student community. **He addressed more than 3 lakh students.**
- He has also founded a technical start up lately named SST Technologies in 2016. Presently Dr. Sreenivasa Setty is the Founder and the CTO of this company.
- SST Technologies has been established in with a vision to be one of the top company for IOT, Arduino, Raspberry Pi, Android Development Training, C, C++, Java, Python, Android App Development, Microprocessors, IoT, Dot.net & PHP, Embedded development, Web Designing and hosting, Robotics, Software Testing solutions etc.
- SST Technology always thrive to provide a better and smarter way to conduct and train the students, in bridging the gap between the industry requirement and the knowledge acquired by students.

Dr. Sreenivasa Setty
 Chief Technical Officer
 SST Technologies
 Bangalore-560078

CONTACT:

Phone :

+91-95910 91444

Youtube/sreenivasasetty

Website: www.ssttech.in
www.sreenivasasetty.com

Two Day's Hands-on Skill Development Program on "IoT and its Application using NodeMCU"

Program Schedule

Day-1:

9:00 am – 9.30am	Download and Install Arduino IDE Software Install the ESP 8266 board in Arduino IDE
9:30 am - 10:45 am	Introduction to SST-NodeMCU Project Board.- GPIO Pins Programming Onboard LED to Blink(GPIO2 and GPIO16)
10:45 am - 11:00 am	Tea Break
11:00 am - 12:00 pm	Interface Toggle Switch to NodeMCU (GPIO16). Write a Program in C to Control LED which is connected at GPIO15 using Toggle switch.
12:00 pm - 1:00 pm	Preliminaries of Light Dependent Resistor(LDR) Write a Program in C to read intensity of Light and display it on Serial Monitor. Implement Smart Street Light.
1:00 pm - 2:00 pm	Lunch Break
2:00 pm - 4:00 pm	Download and install Bluetooth Serial16 App. Interface Bluetooth (HC-05) and LED with NodeMCU. Write a Program in C to Control LED (On/Off) using Bluetooth Serial Controller App .

Day-2:

9:00 am – 9.30am	Introduction to Blynk Server. Download and Install Blynk App from Play Store.
9:30 am - 10:45 am	Interface DHT11 (Temperature and Humidity) Sensor with ESP8266. Write a program in C to display temperature and humidity on Serial Monitor.
10:45 am - 11:00 am	Tea Break
11:00 am - 1:00 pm	Interface LED with ESP8266 and Design Graphical User Interface (GUI) using Web Dashboard (Blynk Server) and Control LED (On/Off) using Web Dashboard.
1:00 pm - 2:00 pm	Lunch Break
2:00 pm - 4:00 pm	Interface DHT11 (Temperature and Humidity) Sensor with ESP8266. Write a program in C to display temperature and humidity on Web Dashboard. (Using Blynk Server).







Bengaluru, KA, India
Nellukunte, Bengaluru, 562157, KA, India
Lat 13.150830, Long 77.610062
04/11/2023 10:36 AM GMT+05:30
Note : Captured by GPS Map Camera



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Krishnadevarayanagar, Off International Airport Road, Hunasamarahanahalli, Bengaluru - 562 157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **G Satish** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.


DR. SREENIVASA SETTY
CTO, SST Technologies


DR. T.N. ANITHA
Professor and Head, Dept of CSE


DR. RAKESH S G
Principal

Made for free with Certify'em



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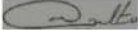
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **Vandana G** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.


DR. SREENIVASA SETTY
CTO, SST Technologies


DR. T.N. ANITHA
Professor and Head, Dept of CSE


DR. RAKESH S G
Principal

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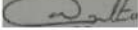
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **Ananya Priya** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.


DR. SREENIVASA SETTY
CTO, SST Technologies


DR. T.N. ANITHA
Professor and Head, Dept of CSE


DR. RAKESH S G
Principal

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **Pragathi M** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.

DR. SREENIVASA SETTY
CTO, SST Technologies

DR. T.N. ANITHA
Professor and Head, Dept of CSE

DR. RAKESH S G
Principal

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SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY SST
(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Krishnadevarayanagar, Off International Airport Road, Hunasamarahanahalli, Bengaluru - 562 157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **SURAJ KUMAR B P** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.

DR. SREENIVASA SETTY
CTO, SST Technologies

DR. T.N. ANITHA
Professor and Head, Dept of CSE

DR. RAKESH S G
Principal

Made for free with Certify'em



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SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY SST
(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Krishnadevarayanagar, Off International Airport Road, Hunasamarahanahalli, Bengaluru - 562 157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
IN ASSOCIATION WITH



CERTIFICATE OF PARTICIPATION

This is to certify that **Dr T N Anitha** has participated in the 3 Days
Student Development Program on "IOT" organized by the Department of
Computer Science and Engineering on 11th ,12th and 13 April 2023.

DR. SREENIVASA SETTY
CTO, SST Technologies

DR. T.N. ANITHA
Professor and Head, Dept of CSE

DR. RAKESH S G
Principal

Made for free with Certify'em

Time stamp	Email Address	Score	Full Name	Department	College	Designation	Student, USN	How might the format of this activity be improved to be most appropriate for the content presented? Select all that apply.	Please rate the overall aspects of this educational activity based on.	Educational Content	Relevance to Institution's need	Questions and Discussions	Oral Presentations	Quality of Presenters	Selection of Topics	Extent to which the content of event matched the intended	Overall Quality of the Event	Any other feedback
4/21/2023 14:57:37	surajmvit@gmail.com	0 / 1	SURAJ KUMAR B P	CSE	SIR MVIT	Faculty	NA	5	Form at was Appr opriat e, No chang es neede d.	5	5	5	5	5	5	5	5	
4/21/2023 15:41:23	hod_cse@sirmvit.edu	0 / 1	DR T N ANITHA	CSE	SIR MVIT	Faculty	01	4	Form at was Appr opriat e, No chang es neede d.	A	4	4	4	4	4	4	4	nothin g
4/21/2023 16:36:39	savitha_cs@sirmvit.edu	0 / 1	DR.SAVI TA CHOUD HARY	CSE	SIR MVIT	Faculty	1077	5	Sche dule more time for Q and A	Excele nt	5	5	5	5	5	5	5	
4/21/2023 16:37:02	mayuri_cs@sirmvit.edu	0 / 1	MAYURI K P	CSE	SIR MVIT	Faculty	-	5	Form at was Appr opriat e, No chang es neede d.	Conen t is needed and knowle dge improv ed	5	5	5	5	5	5	5	Good and Infor mativ e
4/21/2023 16:39:19	yogeshbhangigoudra@gmail.com	0 / 1	YOGES HR BHANGI GOUDR A	CSE	SIR MVIT	Stu dent	1MV 19CS 130	3	Inclu de more case based prese ntatio ns, Incre ase intera ctivit y with atten dees, Add Hand s on Instru ctional comp onent		4	4	3	4	4	4	4	
4/21/2023 16:39:29	vishalnm01@gmail.com	0 / 1	VISHAL N M	CSE	SIR MVIT	Stu dent	1MV 19CS 125	5	Add Break outs for Subto pics		5	4	5	4	4	5	5	5
4/21/2023 16:39:38	nishanthr878@gmail.com	0 / 1	NISHAN TH R	CSE	SIR MVIT	Stu dent	1MV 19CS 079	3	Incre ase intera ctivit y with		3	3	3	3	3	3	3	

23 16:45:06	2308@gmail.com	/1	ANTAS	SE	MVIT	udent	20CS404		de more case based presentations, Increase interactivity with attendees, Add Break outs for Subtopics, Add Hands on Instructional component										
4/21/2023 16:45:36	arjunemailid@gmail.com	0/1	ARJUNGARG	CSE	SIR MVIT	Student	1MV19CS023	5	Add Hands on Instructional component		5	4	4	3	5	4	4	4	
4/21/2023 16:45:39	gauravbabu13@gmail.com	0/1	GAURAV KUMAR	CSE	SIR MVIT	Student	1MV19CS044	4	Add Hands on Instructional component		4	5	4	4	4	4	4	4	
4/21/2023 16:45:44	c.chithralekha01@gmail.com	0/1	C CHITHRA LEKHA	CSE	SIR MVIT	Student	1MV19CS034	3	Increase interactivity with attendees		3	3	3	3	3	3	3	3	
4/21/2023 16:46:09	geethika55555@gmail.com	0/1	KURUBA GEETHIKA	CSE	SIR MVIT	Student	1MV19CS061	4	Format was Appropriate, No changes needed.		4	4	4	4	4	4	4	4	
4/21/2023 16:46:45	harimr486@gmail.com	0/1	MR HARIKRISHNA	CSE	SIR MVIT	Student	1MV19CS064	5	Format was Appropriate, No changes needed.	Good	5	5	5	5	5	5	5	5	-
4/21/2023 16:47:08	akarshmishra23@gmail.com	0/1	AKARSH MISHRA	CSE	SIR MVIT	Student	1MV19CS008	5	Format was Appropriate, No changes needed.		4	4	4	4	4	4	4	4	
4/21/2023 16:47:17	kshitiigupta200@gmail.com	0/1	KSHITIJ GUPTA	CSE	SIR MVIT	Student	1MV19CS059	4	Include more case based presentation,	Very informative and helpful	5	4	5	4	4	4	5	5	NA

[illegible]

									case based presentations, Add Hands on Instructional component										
4/21/2023 17:44:08	holladebhavana@gmail.com	0 / 1	BHAVANA BHASKAR HEGDE	CSE	SIR MVIT	Student	1MV19CS033	5	Form at was Appropriate, No changes needed.		5	5	5	5	5	5	5	5	
4/21/2023 17:44:09	vandana95544@gmail.com	0 / 1	VANDANAG	CSE	SIR MVIT	Student	1MV19CS046	4	Form at was Appropriate, No changes needed., Include more case based presentations	It was useful	4	4	4	4	4	4	4	4	No
4/21/2023 17:44:32	charanrapati07@gmail.com	0 / 1	R.CHARAN KUMAR REDDY	CSE	SIR MVIT	Student	1MV19CS089	4	Form at was Appropriate, No changes needed., Include more case based presentations, Add Break outs for Subtopics	Good	4	4	4	4	4	4	4	4	NA
4/21/2023 17:45:05	kavitabm075@gmail.com	0 / 1	KAVITA BASAPPA MELMARI	CSE	SIR MVIT	Student	1MV19CS056	5	Form at was Appropriate, No changes needed.		5	5	5	5	5	5	5	5	
4/21/2023 17:45:58	satishgadde10@gmail.com	0 / 1	G SATISH	CSE	SIR MVIT	Student	1MV19CS042	4	Form at was Appropriate, No changes needed.		4	4	4	4	4	4	4	4	
4/21/2023 17:47:24	kaurharshleen123@gmail.com	0 / 1	HARSHLEEN KAUR	CSE	SIR MVIT	Student	1MV19CS049	5	Form at was Appr	8/10	4	4	3	4	4	5	4	4	Excellent

								opriat e, No chang es neede d.											
4/21/20 23 17:47:3 3	yaimarankhuma n2000@gmail.c om	0 / 1	LAISHR AM YAIMAR AN KHUMA N	C S E	SIR MV IT	St ud ent	1MV 19CS 063	5	Form at was Appr opriat e, No chang es neede d.		5	5	5	5	5	5	5	5	
4/21/20 23 17:48:0 7	pavitragouda00 1@gmail.com	0 / 1	PAVITR A RAMAC HANDR A GOUDA	C S E	SIR MV IT	St ud ent	1MV 19CS 081	4	Form at was Appr opriat e, No chang es neede d.	8/10	5	5	5	5	5	5	5	5	Nice experi ence
4/21/20 23 17:48:2 9	anupchoudhary 367@gmail.co m	0 / 1	ANUP KUMAR	C S E	SIR MV IT	St ud ent	1MV 19CS 015	5	Add Hand s on Instru ction al comp onent		5	5	5	4	5	5	5	5	
4/21/20 23 17:49:2 3	yadavnandini77 79@gmail.com	0 / 1	NANDIN I V	C S E	SIR MV IT	St ud ent	1MV 20CS 407	5	Form at was Appr opriat e, No chang es neede d.	5/5	5	5	5	5	5	5	5	5	Thank you, it was more helpfu l for us.
4/21/20 23 17:53:3 4	pragathi_cs@sir mvit.edu	0 / 1	PRAGAT HI M	C S E	SIR MV IT	Fa cul ty	01413	5	Incre ase intera ctivit y with atten dees	4	5	5	4	4	4	4	4	4	No comm ents
4/21/20 23 18:01:3 0	madhushreen15 24@gmail.com	0 / 1	MADHU SHREE N	C S E	SIR MV IT	St ud ent	1MV 20CS 403	5	Form at was Appr opriat e, No chang es neede d.	10/10	5	5	5	5	5	5	5	5	Overa ll good
4/21/20 23 18:03:5 5	aakashtyagi232 @gmail.com	0 / 1	AAKAS H TYAGI	C S E	SIR MV IT	St ud ent	1MV 19CS 001	5	Form at was Appr opriat e, No chang es neede d.	5/5	5	5	5	5	5	5	5	5	
4/21/20 23 18:25:1 9	shauryam.jain@ gmail.com	0 / 1	SHAUR YAM JAIN	C S E	SIR MV IT	St ud ent	1MV 19CS 100	1	Form at was Appr opriat e, No chang es neede d., In clu de more case based prese ntatio		1	2	2	5	5	5	4	4	

									ntatio ns										
4/22/2023 20:15:53	chinmayibhat01@gmail.com	0 / 1	CHINMAYI	CSE	SIR MV IT	Student	1MV 19CS 039	4	Increase interactivity with attendees, Add Break outs for Subtopics, Add Hands on Instructional component		5	5	4	4	4	4	4	4	
4/22/2023 21:02:33	nidhirshetty3@gmail.com	0 / 1	NIDHIR SHETTY	CSE	SIR MV IT	Student	1MV 19CS 076	4	Format was Appropriate, No changes needed.	It was good	4	5	5	5	5	4	4	5	Nothing
4/23/2023 10:27:44	khushi2khanna@gmail.com	0 / 1	DIVYA DRISHTI	CSE	SIR MV IT	Student	1MV 19CS 040	5	Format was Appropriate, No changes needed.	10/10	5	5	5	5	5	5	5	5	It was very good
4/23/2023 11:40:44	rahulghosh070@gmail.com	0 / 1	RAHUL GHOSH	CSE	SIR MV IT	Student	1MV 19CS 090	4	Format was Appropriate, No changes needed.	It was quite complete in all aspects.	4	4	3	4	3	4	4	3	
4/23/2023 21:45:06	amaanahmed645@gmail.com	0 / 1	BAMAAN AHMED	CSE	SIR MV IT	Student	1MV 19CS 030	4	Other ...		4	3	4	4	4	4	4	4	
4/24/2023 10:32:09	sayansadhukha@gmail.com	0 / 1	SAYAN SADHUKHA	CSE	SIR MV IT	Student	1MV 19CS 097	5	Format was Appropriate, No changes needed.	GOOD	5	5	5	5	5	5	5	5	
4/24/2023 11:08:38	arpitdixitc23@gmail.com	0 / 1	ARPIT DUTT DIXIT	CSE	SIR MV IT	Student	1MV 19CS 024	4	Increase interactivity with attendees, Add Hands on Instructional component	Great	5	4	4	3	5	4	4	4	



SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY

HUNASAMARANAHALLI, Off INTERNATIONAL AIRPORT ROAD, BENGALURU -562157

KALA KAUSTUBHA - SUSAMSKRITI

SPANDANA

Social Outreach Club

MEDICAL CAMP FOR CHILDREN

18th December 2022

in association with

ABHIKALPANA

REPORT

MEDICAL CAMP-2022

18/12/2022

9.30 AM to 2.30 PM

Sir MVIT Campus



MEDICAL CAMP-2022
BY JOINT ASSOCIATION OF
SPANDANA and ABHIKALPANA TRUST
SIR MVIT BENGALURU

Event name: Medical camp

Event date and time: 18 December 2022, 9.30 am – 2.30 pm

Venue: New auditorium, Sir MVIT

Faculty mentor of Spandana: Dr. Rashmi KV

Numbers of hours spent: 5hrs

Number of volunteers: 82

Number of doctors: 10

Details of doctors:

Sl. No.	NAME	CONTACT NUMBER	DESIGNATION	INSTITUTION
1	Dr. Nayana	9901723969	PG(Final year), General Medicine	Bangalore Medical College and Research Institute
2	Dr. Swathi Maiyya	9945057180	PG(Final year), General Medicine	Bangalore Medical College and Research Institute
3	Dr. Meghana T S	9481176145	PG(Final year), General Medicine	Bangalore Medical College and Research Institute
4	Dr. Harshitha S	9535884406	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
5	Dr. Anjali V	9113558927	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
6	Dr. Asfiya Anjum	9035424423	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
7	Dr. Purnendu Laik	7001505491	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
8	Dr. Arpitha C	9742483588	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
9	Dr. Chaithanya Pavan G	9731010168	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital
10	Dr. Megna K M	8943811395	Intern, Dental Science	Krishnadevaraya College of Dental Sciences & Hospital

“Medical camp” 2022 conducted on the 18th December was organized by the joint association of Abikalpana Trust and Spandana, the social outreach forum of Sir MVIT.

We had invited 3 General physicians and 7 dentists. Every kid was examined by a pair of dentists and a General physician each and necessary medication/ further treatments were prescribed. Transport facilities for the kids

were provided by the college transport department. Lunch for the kids and volunteers provided by SMVIT and KCDS Men's hostel.

- A total of 66 kids were looked into
- Kids were picked up from their respective homes and brought to new auditorium by 8.30 am by the volunteers in charge
- Doctors arrived by 10am and we started the medical camp soon after that
- Doctors treated the kids in 2 shifts with a refreshment break in between
- While a set of kids were treated by the doctors, the rest of kids of them were engaged in different activities conducted by volunteers.
- Doctors were done treating all the 66 kids by 2.30pm.
- Both the kids and doctors were escorted to the mess by the volunteers for lunch.
- After the kids finished having lunch they were distributed with fruits and stationaries sponsored by Dr. Shreekanth, 4th year ECE and few volunteers from Christ University respectively.
- Kids were dropped back to their respective homes safely by the volunteers' in-charge.
- Volunteers and doctors were returned back to the auditorium for the vote of thanks and post event meeting.
- Doctors addressed the volunteers and shared their experience and suggestions.
- Faculty mentor of Spandana, Dr. Rashmi KV proceeded with the vote of thanks.
- Doctors were distributed with certificate of appreciation, a hamper and framed group photo each as token of gratitude.
- After the doctors left volunteers wrapped up the medical camp with a post event meeting.

Further actions to be taken:

- Parents of the kids that need immediate further treatment to be informed about the same by the volunteers.
- Necessary arrangements for distribution of deworming and multivitamin tablets to required kids to be made.
- Nutritional counselling to the parents of the kids to be carried out by the volunteers.
- Kids to be educated about hygiene, oral health and mental health by the volunteers.

Dr Rashmi K V

Faculty mentor- SPANDANA

Associate Professor, Department of Biotechnology

List of volunteers:

NAME	USN	BRANCH/YEAR
Ananya Priya	1MV19CS013	4th year/CSE
Arathi M	1MV19CS020	4th year/CSE
Bhargavi	1MV19CS032	4th year/CSE
Chinmayi	1MV19CS039	4th year/CSE
Kanchana	1MV19CS054	4th year/CSE
Kavita Basappa Melmari	1MV19CS056	4th year/CSE
M S Sudhir Srinivas	1MV19CS065	4th year/CSE
Ammar Ahmed Taha	1MV19CS070	4th year/CSE
Nidhi R Shetty	1MV19CS076	4th year/CSE
Sharanya C H	1MV19CS099	4th year/CSE
Yogesh R Bhangigoudra	1MV19CS130	4th year/CSE
Punit Kumar	1MV19EC022	4th year/ECE
Bindhushree S	1MV19EC025	4th year/ECE
D H Gowda	1MV19EC027	4th year/ECE
D Manoj Kumar	1MV19EC028	4th year/ECE
Devika A	1MV19EC031	4th year/ECE
Poshitha K J	1MV19EC079	4th year/ECE
Santhosh K S	1MV19EC101	4th year/ECE
Shaik Areef	1MV19EC102	4th year/ECE
Spoorthi P K	1MV19EC109	4th year/ECE
Sudesh S Gaonkar	1MV19EC113	4th year/ECE
Harish C	1MV19EE037	4th year/EEE
Isha Asthana	1MV19EE041	4th year/EEE
Manvith K C	1MV19ET027	4th year/ETE
Suraj kumar	1MV19IS030	4th year/ISE
Jayasurya K S	1MV19ME025	4th year/MEE
B P Satwick	1MV20CS027	3rd year/CSE
Dwijith R Nambiar	1MV20CS033	3rd year/CSE
Shreelakshmi	1MV20CS102	3rd year/CSE
Sushmitha P	1MV20CS117	3rd year/CSE
Swapnil D Kore	1MV20CS118	3rd year/CSE
Vikram K N	1MV20CS125	3rd year/CSE
Yasaswini	1MV20CS128	3rd year/CSE
Fatima Bacha	1MV20CV008	3rd year/CVE
Jagruthi K B	1MV20CV011	4th year/CVE
Meghana V R	1MV20CV016	3rd year/CVE
Shreeraksha S Naik	1MV20CV026	3rd year/CVE
Ankit Kumar	1MV20EC016	3rd year/ECE
Devika H A	1MV20EC042	3rd year/ECE
Lavanya P	1MV20EC066	3rd year/ECE
Shweta Kumari	1MV20EC110	3rd year/ECE

Thasmeen D	1MV20EC118	3rd year/ECE
Varshikha K V	1MV20EC123	3rd year/ECE
Yogesh Kumar	1MV20EC125	3rd year/ECE
Bachchan kallappa	1MV20EC129	3rd year/ECE
Sachin Reddy	1MV20EE059	3rd year/EEE
Spoorthi	1MV20EE067	3rd year/EEE
Uttam A B	1MV20EE072	3rd year/EEE
Sunil R	1MV20EE407	3rd year/EEE
Manmohan Singh	1MV20ET015	3rd year/ETE
Sanket hegde	1MV20ET025	3rd year/ETE
Muzammil	1MV20IS031	3rd year/ISE
Prateek P Acharya	1MV20IS039	3rd year/ISE
Sumanth Kumar	1MV20IS058	3rd year/ISE
Supritha S	1MV20IS059	3rd year/ISE
Varsha S	1MV20IS063	3rd year/ISE
Bhaskar M L	1MV20ME009	3rd year/MEE
Divya K	1MV20ME016	3rd year/MEE
Mallikarjuna Sajjan	1MV20ME024	3rd year/MEE
Rushikesh	1MV20ME033	3rd year/MEE
Srujan K	1MV20ME038	3rd year/MEE
Sukshith Shivalenkamath	1MV20ME040	3rd year/MEE
Venkatesh	1MV20ME044	3rd year/MEE
Thilak Chandar R	1MV21EC113	2nd year/ECE
Varun B Raj	1MV21EC118	2nd year/ECE
Vikshitha V	1MV21EC120	2nd year/ECE
Darshan M L	1MV21EE013	2nd year/EEE
Khivan Avtar	1MV21EE024	2nd year/EEE
LakshmiKanth N G	1MV21EE031	2nd year/EEE
Nischithraj L C	1MV21EE039	2nd year/EEE
Sumith Babu S	1MV21EE058	2nd year/EEE
Vindya P	1MV21EE064	2nd year/EEE
Prateek D	1MV21EE426	3rd year/EEE
Aman Sharma	1MV21IS005	2nd year/ISE
Amogha M	1MV21IS043	2nd year/ISE
Tejas N	1MV21IS061	2nd year/ISE
Kiran	1MV21ME416	3rd year/MEE
Mahesh R	1MV21ME421	3rd year/MEE
Sumeeth	1MV21ME440	3rd year/MEE
U Sandesh	1MV21ME445	3rd year/MEE













SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

Krishnadevarayanagar, Hunasamaranahalli, Off International Airport Road, Bangalore-562 157.



(Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution)

Ph No. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081

E-mail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : www.sirmvit.edu



Ref: No.VIT/OFF/ /2021-2022

Date: 15.11.2021

From,

Dr. G. M. Krishnaiah, Professor & HOD of Chemistry
Co-ordinator, Cultural Committee, Sir MVIT, Bengaluru.

To,

The Registrar,
Visvesvaraya Technological University (VTU),
Belagavi, Karnataka State, India.

Through: The Principal, Sir MVIT, Bengaluru-562157

Sir,

Subject: Submission of the “Report of Kannada Rajyotsava-2021 Celebrations” at our College---- regarding
Ref No: VTU/PS/2021-22/3259, dated 28-10-2021

With reference to the above circular received from VTU, and as per the instructions of our Principal of Sir MVIT, we had conducted various events / competitions to our college students on 11 – 11-2021 from morning 9.00am to 5.00 pm. The events were Dance, Singing, Essay writing and Kannada pick & speak. On 13-11-2021 (Saturday), Prize distribution ceremony was arranged.

We are herewith enclosing the “**Report of Kannada Rajyotsava-2021 Celebrations**” along with a copy of invitation, program chart and photos for your kind information. We thank the VTU on behalf of our Management Sri. KET, College, Principal, HoDs, Staff and Students of Sir MVIT for given an opportunity to conduct Kannada Rajyotsava 2021 program.

Thanking you,

Yours sincerely
Sd/-

[Dr. G.M. KRISHNAIAH]
Co-ordinator, Cultural Committee, Sir MVIT.

Report of Kannada Rajyotsava-2021 Celebrations

Various events / competitions were conducted to our college students on 11-11-2021 from morning 9.00 am to 5.00 pm. The events were Dance, Singing, Essay writing and Kannada pick & speak highlighting the Kannada culture.

1. The particulars of the Competitions conducted on 11-11-2021 from 9.00 am to 5.00 pm

Sl. No.	Event	No of participants registered	No of prizes awarded
1.	Dance	15	03
2.	Singing	24	03
3.	Essay writing	101	03
4.	Kannada pick & speak	32	03

2. The particulars of the cash prizes and certificates distributed to the winners on 13-11-2021 from 10.00 am to 1.00 pm

Sl. No.	Event	Prize	Name of the prize winners	Cash prize in Rs.
1.	Dance	I	Keerthana. S. (3 rd Sem B.E, CSE)	1,000/=
		II	Vidhyashri. K (3 rd Sem, MBA).	750/=
		III	Monisha (3 rd Sem B.E, CSE)	500/=
2.	Singing	I	Ajith Bhan Darkar (B.E 7 th Sem, ME)	1,000/=
		II	Hitha. M (3 rd Sem B.E, BT)	750/=
		III	Deepika Bhat (5 th sem B.E, BT)	500/=
3.	Essay writing	I	Shraddha. V Goudar (5 th Sem B.E, ECE)	1,000/=
		II	Shreelakshmi (3 rd Sem B.E, CSE)	750/=
		III	Arjun Kashyap. G. S (7 th Sem B.E, EEE)	500/=
		Consolation	Akshatha. P. M (3 rd Sem B.E, IS)	300/=
			Monika. P (3 rd Sem B.E, ECE)	300/=
4.	Kannada pick & speak	I	Shreelakshmi (3 rd Sem B.E, CSE)	1,000/=
		II	Arjun Kashyap. G. S (7 th Sem B.E, EEE)	750/=
		III	Chaitra (3 rd Sem, MCA)	500/=
		Consolation	Niharika (5 th Sem, B.E, CSE)	300/=

3. Invitation

ಶ್ರೀ ಕೃಷ್ಣದೇವರಾಯ ಶಿಕ್ಷಣ ದತ್ತಿಯವರ

ಸರ್ ಎಂ. ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ಮಹಾ ವಿದ್ಯಾಲಯ
ಕೃಷ್ಣದೇವರಾಯನಗರ, ಹುಣಸಮಾರನಹಳ್ಳಿ, ಬೆಂಗಳೂರು - ೫೬೨೦೫೭

ದಿನಾಂಕ ೧೩.೧೧.೨೦೨೧ ರಂದು ಆಚರಿಸಲಿರುವ

“ಕನ್ನಡ ರಾಜ್ಯೋತ್ಸವ- ೨೦೨೧”

ವಿಶೇಷ ಕಾರ್ಯಕ್ರಮಕ್ಕೆ

ತಮಗೆಲ್ಲರಿಗೂ ಹಾರ್ದಿಕ ಸುಸ್ವಾಗತ

ಮುಖ್ಯ ಅತಿಥಿಗಳು

ಶ್ರೀ ಕೆ.ಶ್ಯಾಮ ರಾಜು

(ಕಾರ್ಯದರ್ಶಿಗಳು, ಶ್ರೀ ಕೃಷ್ಣದೇವರಾಯ ಶಿಕ್ಷಣ ದತ್ತಿ)

ಘನ ಉಪಸ್ಥಿತಿ

ಶ್ರೀ ಪ್ರಭಾಕರ ರಾಜು

(ಟ್ರಸ್ಟಿ, ಶ್ರೀ ಕೃಷ್ಣದೇವರಾಯ ಶಿಕ್ಷಣ ದತ್ತಿಮತ್ತು ಎಸಿಸಿ)

ಸ್ಥಳ : ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್ ಸಭಾಂಗಣ

ಸಮಯ : ಬೆಳಿಗ್ಗೆ ೧೧ ಗಂಟೆಗೆ

ಡಾ. ವಿ. ಆರ್. ಮಂಜುನಾಥ್

ಪ್ರಾಂಶುಪಾಲರು,

ಸರ್ ಎಂ ವಿ ಐ ಟಿ

4. Program Schedule

ಕಾರ್ಯಕ್ರಮ

11-00 ರಿಂದ 11-05 ರವರೆಗೆ	:	ಪ್ರಾರ್ಥನೆ
11-05 ರಿಂದ 11-10 ರವರೆಗೆ	:	ಸ್ವಾಗತ ಭಾಷಣ
11-10 ರಿಂದ 11-15 ರವರೆಗೆ	:	ದೀಪ ಬೆಳಗಿಸುವುದು
11-15 ರಿಂದ 11-20 ರವರೆಗೆ	:	ನಾಡಗೀತೆ
11-20 ರಿಂದ 11-30 ರವರೆಗೆ	:	ಸಂಕಲ್ಪ ಮತ್ತು ಆರಂಭಿಕ ನುಡಿಗಳು
11-30 ರಿಂದ 12-00 ರವರೆಗೆ	:	ಶಾಸ್ತ್ರೀಯ ನೃತ್ಯ
12-00 ರಿಂದ 12-15 ರವರೆಗೆ	:	ಕನ್ನಡ ಗೀತೆಗಳು (ವಿಜೇತರಿಂದ)
12-15 ರಿಂದ 12-20 ರವರೆಗೆ	:	ಕಾರ್ಯಕ್ರಮದ ವರದಿ
12-20 ರಿಂದ 12-30 ರವರೆಗೆ	:	ಮುಖ್ಯ ಅತಿಥಿಗಳಿಗೆ ಸನ್ಮಾನ
12-30 ರಿಂದ 12-35 ರವರೆಗೆ	:	ಮುಖ್ಯ ಅತಿಥಿಗಳ ಭಾಷಣ
12-35 ರಿಂದ 12-45 ರವರೆಗೆ	:	ಬಹುಮಾನ ವಿತರಣೆ
12-45 ರಿಂದ 12-50 ರವರೆಗೆ	:	ವಂದನಾರ್ಪಣೆ
12-50	:	ರಾಷ್ಟ್ರಗೀತೆ

-- ೦೦೦--

ಸೂಚನೆ : ಲಘು ಉಪಹಾರ (10 ರಿಂದ 10-30 ರವರೆಗೆ)

5. Kannada Rajyotsava-2021 Celebrations: Photo Gallery



The Banner



Dr. V. R. Manjunath Principal, Sri K. Syamaraju-Chief Guest & Secretary Sri KET, and Sri. G. Prabhakara Raju, Guest of Honour & Trustee Sri KET.



**Welcome address, Kannada Naadageethe and Report reading
by the students**



**Lighting the lamp by the Chief Guest Sri. K. Syamaraju
(Kannada Rajyotsava-2021 Awardee)**



**Lighting the lamp by the
Guest of Honour Sri Prabhakar Raju, and Dr. V R Manjunath, Principal**



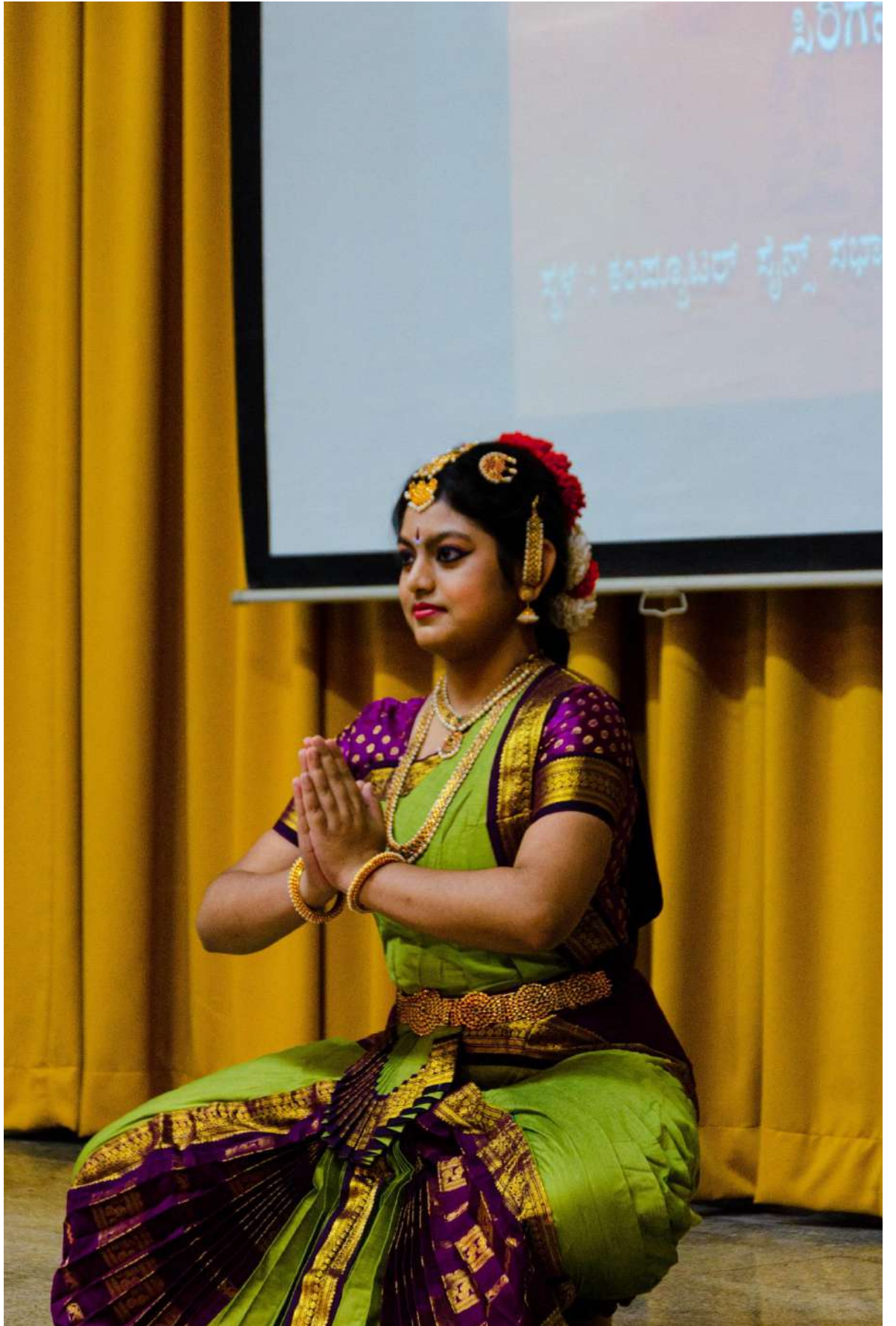
**Lighting the lamp
by the Chief Guest, Guest of Honour, Principal & Students**



**Resolution and opening remarks by
Dr. V. R. Manjunath Principal of Sir MVIT**



HODs, Staff and Students attending the program.



Dance performance by the prize winner



Dance performance by the prize winner



Dance performance by the prize winner



**Felicitatation of the Chief Guest
by the Trustee, Principal, HODs, Staff and Students.**



Chief Guest addressing the gathering



During the National Anthem



SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

HUNASAMARANAHALLI, OFF INTERNATIONAL AIRPORT ROAD, BENGALURU -562157



In association with



NSS

Sir MVIT Chapter

Organises

Blood Donation Drive

January 06, 2023

VENUE: COLLEGE AUDITORIUM

REPORT



Blood Donation Drive 2023



Event Name: Blood donation Drive 2023

Event Date and Time: 06 January 2023, 9:00am-3:30 pm

Venue: New Auditorium, Sir MVIT

Faculty Co-Ordinator of Spandana: Dr Rashmi KV

Faculty Co-Ordinator of NSS: Mr Byregowda K

Number of hours spent: 6-7 hours

Number of Volunteers: Spandana:16
NSS:39

Collaboration with: Lions Club, Bangalore Airport City, Distt-317E

Hospitals: Bowring & Lady Curzon Hospitals
Kidwai Memorial Institute of Oncology
Indira Gandhi Institute of Child Health
Victoria Hospital, B.M.C & R.I., Bengaluru

Units of Blood Collected: 60+113+104+88=365 units

Overview of the event:

“BLOOD DONATION DRIVE” 2023 conducted on 6th of January was organized by joint association of SPANDANA social outreach club of Sir MVIT and NSS of Sir MVIT.

The event was in collaboration with Lions Club, Bangalore Airport City, which brought 4 different hospitals namely Bowring & Lady Curzon Hospitals, Kidwai Memorial Institute of Oncology, Indira Gandhi Institute of Child Health, Victoria Hospital, B.M.C & R.I., Bengaluru. These hospitals each came with 6-7 doctors and supporting staff. They brought their own beds and medical supplies for blood collection.

Highlights of events are:

- Blood donation Drive was inaugurated by lighting of lamp in presence of Principal of Sir MVIT Prof. Rakesh S. G., Members of Lion's club and faculty of Sir MVIT.
- There were around 55 volunteers which included members of both Spandana and NSS who worked helped Doctors of 4 different Hospitals in setting up and collecting blood from donors.
- Blood donation was pioneered by Principal of Sir MVIT, Prof. Rakesh S. G., as he volunteered to be the first donor. Followed by this, there were 364 donors stepped forward to donate their blood for this noble cause.
- Faculty, Students and Non-teaching staff of Sir MVIT volunteered for blood donation.
- Doctors checked the eligibility of donor by checking their weight, hemoglobin level, blood group and blood pressure. Once these tests were passed the donor was allowed to donate blood. After donation each donor was awarded with appreciation certificate and some refreshments.
- Around 2:30pm the camp was winded up and in span of 5hrs around 365 units of blood was collected by all hospitals in total.
- Volunteers helped the Hospitals to wind up and clean up the venue.
- Certificates of appreciation by all the hospitals and Lion's club were presented to head of the institution Prof. Rakesh S. G and to NSS coordinator Shri Byregowda by Madam Umadevi, President, Lions Club, Bangalore Airport City, Distt-317E.

Dr Rashmi K V
Faculty mentor- SPANDANA
Associate Professor, Department of Biotechnology

Mr Byregowda
NSS Program Coordinator
Assistant Professor, Department of ISE

VOLUNTEERS LIST

SPANDANA VOLUNTEERS

SL.NO	NAME OF THE STUDENT	USN	BRANCH
1	SRUJAN K	1MV20ME040	MECH
2	SAMHITHA B S	1MV20BT023	BT
3	K UDAY KETHAN	1MV21EE020	EEE
4	KHIVAN AVTAR	1MV21EE024	EEE
5	ADITHYA SATISH	1MV20BT004	BT
6	SRUSTI M H	1MV20CS112	CSE
7	SAIPUSHPANJALI R SHETTY	1MV20IS047	ISE
8	SUMANTH KUMAR	1MV20IS058	ISE
9	SUMEET CHALAK	1MV20CV027	CIVIL
10	PRADEEPTHI J	1MV21EC067	ECE
11	A SHREYA	1MV21EC001	ECE
12	VARSHA S	1MV20IS063	ISE
13	TEJAS N	1MV21IS061	ISE
14	SUMANA K S	1MV21EC107	ECE
15	BHOOMIKA N B	1MV21CS020	CSE
16	NISARGA G N	CS17	CSE

NSS VOLUNTEERS

NAME	USN	BRANCH
Puneeth J	1MV21ME431	MECH
Meena H E	1MV21ME423	MECH
Sheryas T Gowda	1MV21EE053	EEE
Vindhya	1MV21EE064	EEE
G Pavithran	1MV20EC047	ECE
Abishek	1MV20EC003	ECE
Mohamed azmath iqbal	1MV20CS063	CSE
Gulam gouse	1MV21EC403	ECE
Raj rajeshwari	1MV20EC093	ECE
Aakriti Shankar	1MV20BT001	BT
Shreeyaa B S	1MV20IS056	ISE
Mehaboob alam	1MV21EC402	ECE
Kamyashree	1MV20EC059	ECE
Naresh madav k	1MV20IS025	ISE
Bhoomika Y K	1MV20BT009	BT
Promad K	1MV21IS402	ISE
Aizaz	1MV20EC008	ECE
Pavan Tej PS	1MV20EC085	ECE
Sandeep RC	1MV21IS404	ISE
Darshan	1MV20EC039	ECE
Deepthi	1MV20EC040	ECE
Harsha Gangolli	1MV20EC052	ECE
Dileep G C	1MV20EC045	ECE
Manmohan sing	1MV20ET015	ETE
Piyush Nahar	1MV20IS035	ISE
Chandrashekar S V	1MV20EC036	ECE
Adeen	1MV20BT003	BT
Lakshitha G	1MV20EC064	ECE
Aparna C	1MV20EC021	ECE
Sree Lakshmi	1MV20ET033	ETE
Tejesh D	1MV21ME444	MECH
Mohamme Adnan Shariff	1MV21ME424	MECH
Rakshitha B	1MV21ME432	MECH
Hitha S	1MV20EC057	ECE
Gagana R	1MV20EC048	ECE
Subramaniam.g	1MV20EC115	ECE

Glimpses of the event







GOVERNMENT OF KARNATAKA
BOWRING & LADY CURZON HOSPITALS
SHRI ATAL BIHARI VAJAPAYEE MEDICAL COLLEGE AND RESEARCH INSTITUTE
Shivajinagar, Bengaluru - 560001
Ph: 080-25594799

BLOOD CENTRE



CERTIFICATE OF APPRECIATION

Rewarded toN.S.S. PROGRAM OFFICER SRMVIIT in

appreciation of services rendered by organising a Voluntary Blood

Donation Camp held on...06-01-2023 at...SMVIIT college...

wherein.....- 60 -.....units have been mobilised

Shree Bha
Medical Officer

Blood Centre

MEDICAL OFFICER

BLOOD CENTRE

BOWRING AND LADY CURZON HOSPITALS
BABVMC&RI, BENGALURU



KIDWAI MEMORIAL INSTITUTE OF ONCOLOGY

Dr. M.H. Marigowda Road, Bangalore-560 029.
Blood Transfusion and Immunohaematology unit

Certificate of Appreciation

Awarded to NSS program Office
Sr MUI
in appreciation of the devoted services rendered
towards the promotion of voluntary Blood Donation
Programme of the Blood Transfusion and
immunohaematology unit of Kidwai Memorial
Institute of Oncology, Bangalore. We collected 113
Units of Blood.

Date : 6th Jan 2023

P. S. S. fl
BLOOD BANK OFFICER

V. D.
DIRECTOR



INDIRA GANDHI INSTITUTE OF CHILD HEALTH

South Hospital Complex, Dharmaram College Post,
Bangalore - 560 029.

Blood Transfusion and Immunohaematology Unit

Certificate of Appreciation

Awarded toNSS OFFICER.....

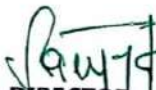
in appreciation of the devoted services rendered towards the
promotion of Voluntary Blood Donation Programme by the
Blood Transfusion and Immunohaematology unit of
Indira Gandhi Institute of Child Health, Bangalore.

We collected.....104.....units of Blood at ...MVIT.....
COLLEGE BANGALORE.....

on ..6.1.2023.....

Date : 6/1/2023


BLOOD BANK OFFICER


DIRECTOR



GOVERNMENT OF KARNATAKA
DEPARTMENT OF TRANSFUSION MEDICINE
(BLOOD BANK)

VICTORIA HOSPITAL, B.M.C. & R.I., BENGALURU
Centenary Building, Fort, Bengaluru-560 002.
080-26700001, Extn.319 &352, Fax: 080-26703267



Certificate of Appreciation

Rewarded to N.S.S. PROGRAM OFFICER SIR MVIT in

appreciation of services rendered by organising a Voluntary Blood

Donation camp held on 06-01-2023 wherein

88 units have been mobilised.

Date
06-01-23

Centre ID

No. of Units
88


Professor & H.O.D.
Dept. of Transfusion Medicine
Victoria Hospital, BMCRI





SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

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KALA KAUSTUBHA-SUSAMSKRTITI

SPANDANA

Social outreach club

Ref: No.

Date: 15.01.2023

To,

Dr. S. K. UMA

Chair- KALA KAUSTUBHA

Professor & Head, Dept of Mathematics

Sir M Visvesvaraya Institute of Technology

Bangalore-562157

Respected Madam,

Sub: Request to grant permission to conduct a social outreach program "Blood Donation Drive" on 6th January 2023-reg.

With reference to above, I wish to bring to your kind notice that. We under the banner of SPANDANA-Social Outreach Club of Sir MVIT in association with "NSS:SMVIT CHAPTER" planned a social outreach program by hosting a blood donation drive in the vicinity of our campus on 6 January 2023 between 9.00 AM to 3:30 PM. We have spoken to LIONS CLUB they are willing to help with the blood collection.

In this regard, we seek your permission to conduct this activity on our campus and oblige.

We request you to grant permission through concerned authorities to utilize the new auditorium for this purpose on 6 January 2023 , 8.30 AM to 3.30PM.

Thanking you,

Sincerely Yours,

Dr Rashmi K V

Faculty mentor- SPANDANA

Associate Professor, Department of Biotechnology



**SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
BENGALURU-562 157
Department of Electrical and Electronics Engineering**

**An invited talk on
“Recent developments in Self Tuning Robots for Industrial applications”
09.01.2023**

FINAL REPORT ABOUT THE PROGRAMME

The department of Electrical and Electronics Engineering of Sir M.VIT was organized an invited Expert talk on **“Recent developments in Self Tuning Robots for Industrial applications”** on 09.01.2023 Monday at 11.00 AM at the CSE Department Seminar hall. This event was a part of the inaugural ceremony of “the ROCC” (Robotics and Computer Vision Club) of Sir M.VIT.

About 100 participants were attended this event. The Programme was inaugurated by Dr. Jharna Majumdar, former Director of DRDO and former Dean (R&D) of NMIT, Bengaluru. Along with her Mr. Sudeep Kumar Gupta from IBM Automation division also present. Dr. H.L. Suresh, the Head of the EEE department was the chief guest and he briefed about the needs for the Robotics revolution in the current scenario. He also advised the students to learn more innovative courses related to AI, Machine learning and Robotics which are having immense employment in the future. Dr. Parthasarathy, Associate Professor of the Dept. of EEE and also the faculty coordinator of ROCC explained the objectives and the goals of the club and briefed about the upcoming activities. Dr. Uma, head of the Mathematics department also present on the eve and shared her views. The Student office bearers were introduced and their responsibilities were decided.



A section of Participants



The “ROCC” Inaugural Session



Dr. Jharna Mujumdar Addresses the gathering

During her speech, Dr. Jharna Mujumdar explained in detail the recent happenings in the self-tuning Robotics field. She was shared her own experiences and the outcomes of her funded projects. She was motivated the students to enter into the Robotics domain in their early stages of studies so that the complete knowledge about the domain can be obtained. She then mentioned about the STUDSAT, the satellite developed by the Consortium of students from seven Engineering colleges which was successfully launched during 2010.

Mr. Sudeep Kumar Gupta explained about the problems related to nonlinear control design. He then discussed about the various simulation software available for the Robotics design and implementation. Feedback was collected from the participants and they have shared their views and expectations during the program. As the continuous process of this event, it was decided to conduct one hands on training on DSP system design in the month of April, 2023. With thanks giving session from the students coordinator, the program was concluded.

SIR. M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

CLUG and TECHHUB Activity Report (2022-2023)

13th Jan,2023

The CLUG MVIT and TECHHUB MVIT organises a Technical talk on “TECHVISTARA 2.0” for first year UG students on 13 th Jan,2023 at New Auditorium from 12:30pm.

The Speakers of this program were

- Apoorv Kumar,
- Vishal Sinha,
- Ankit Josh,
- Ayush Rathore ,
- Mehul Jaiswal ,
- Kushagra Agarwal,
- Shreya Raj from 5th sem students of SMVIT.

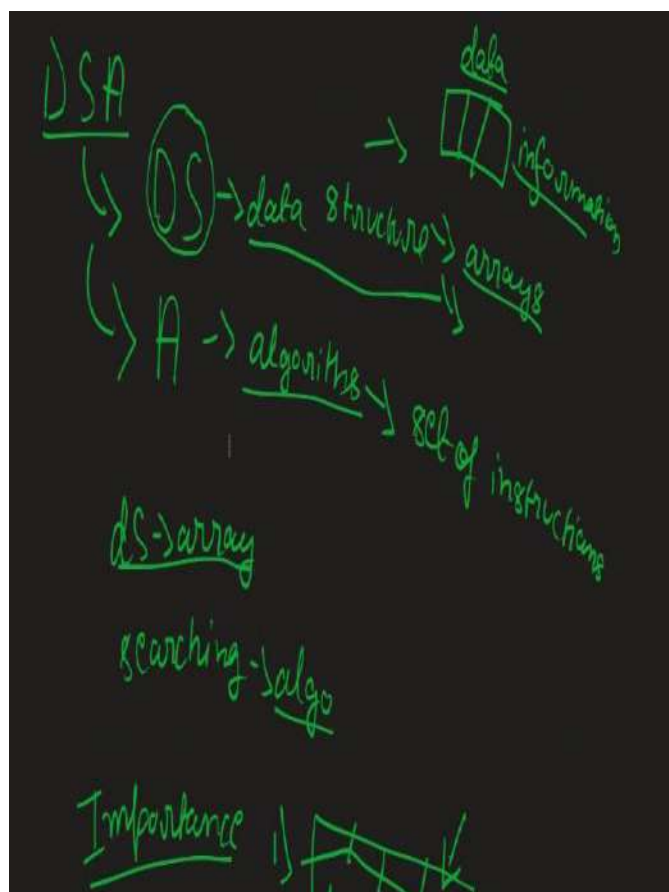
The coordinator of the event was Prof.R.Latha and Prof. Suma Swamy. TechVistara 2.0 focuses on giving a brief about trending tech domains like Web development, App Development, Ethical Hacking, Data Structures and Algorithms, System Design and other important topics like personal branding and laptop guide. A quiz was conducted after the completion of all the sessions. The participants were awarded with various swags for their achievements, which served as a fitting reward for their knowledge and dedication





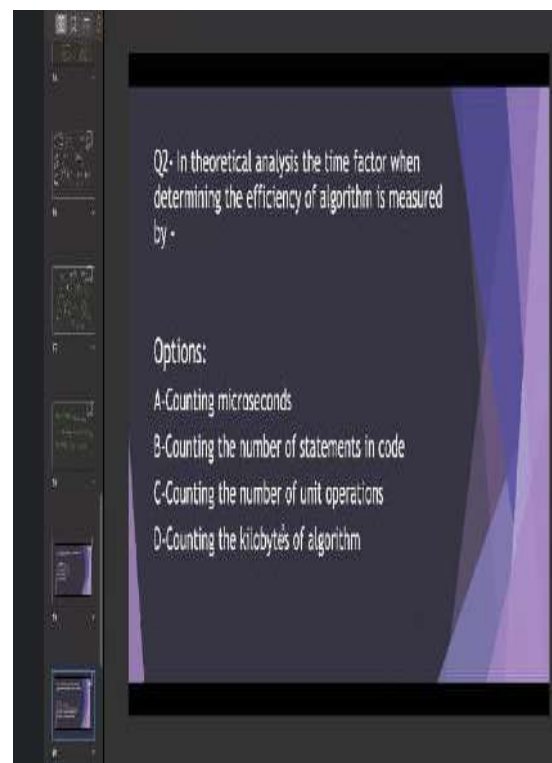
DSA KICKSTART EPISODE 1 - 23rd Feb, 2023

The main goal of the session was to get students started and introduced to DSA. Around 70 students attended the session. The Speakers of this program was Ankit Josh addressed the importance of basic mathematics in logic building that helps in code implementation, Importance of DSA was highlighted. At the end, QnA was there to answer the queries of the students.



DSA KICKSTART EPISODE 2- 11th March, Saturday

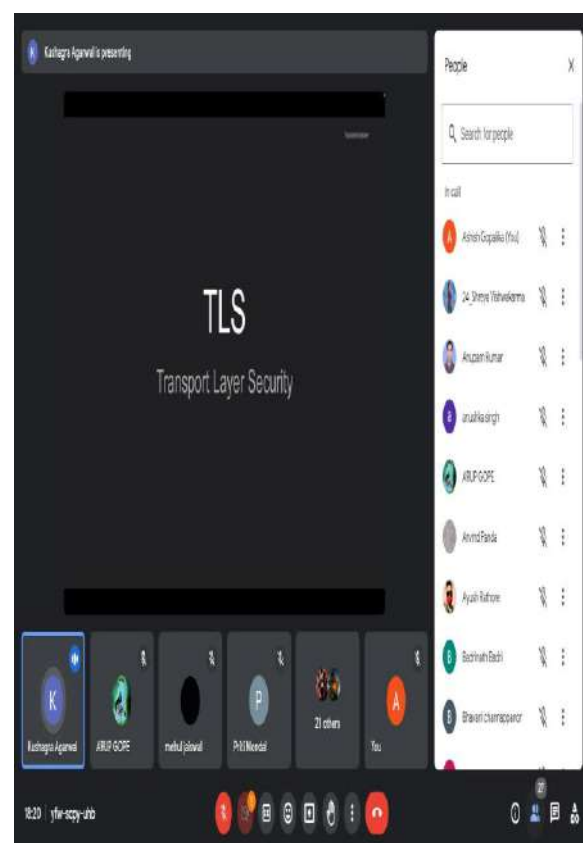
The topic for the session was time and space complexity analysis. The session was hosted by Ankit Josh very well. The session was open for everyone and many students were present in the session. It lasted for around 2 hours. A total of 45 were present during the session. Topics like Time Complexity, Big-Oh Notation, Space Complexity, Auxiliary space etc. were discussed during the session. There were MCQs at the end of the session which consisted questions related to the topics taught in the session. The session was quite interactive as most of the students were responding and answering during the course of the session.



API 19th march 2023

The objective of the session was to introduce and help people develop an understanding of application programming interfaces or API's. The session was hosted by Kushagra Agarwal (the speaker) covered various advanced topics skirting around API's. The topics covered were HTTP (1.1, 2.0, 3.0), TLS, OSI and TCP/IP model, layers of the internet, networks, client-server requests, routers, ports, latency, encryption, congestion control, chunking, web-sockets along with various other sub-topics. The session was filled with regular questions related to the current topic which were answered by several people in the meet. After having dealt with the theory part the session moved on to a practical hands-on example (using Python-Flask) to give clarity over

the theory discussed. Concluding the session, a small Q & A segment was kept to answer the queries of the participants.





SRI KRISHNADEVARAYA EDUCATIONAL TRUST
SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)
Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562 157



SPANDANA
Social outreach club

Organizes

VASTRADANA

The Clothes Donation Drive



June 19-21, 2023
2-4 PM

**Let's make the needy
smile with our old clothes**



**Near Coffee Shop
&
New Block Quadrangle**



Report

“Vastradana - Clothes Collection & Donation Drive”
Organized by SPANDANA - Social Outreach Club of Sir MVIT

SPANDANA, the Social Outreach Club of Sir MVIT, organized a three-day event called "Vastradana - Clothes Collection & Donation Drive" on the campus from 19th to 21st June 2023. The drive aimed to collect old but usable clothes from students and staff and donate them to the needy, thereby promoting the spirit of compassion and social responsibility among the college community.

Objectives: The primary objectives of the event were as follows:

- To encourage the students and staff to contribute to a noble cause by donating their old clothes.
- To collect a substantial amount of usable clothing to be distributed among the underprivileged and marginalized sections of society.
- To create awareness about the importance of clothing donations in addressing the basic needs of the less fortunate.
- To foster a sense of empathy, compassion, and social responsibility among the participants.

The Vastradana event was organized at a designated booth set up on the college campus. The organizing committee of SPANDANA coordinated the logistics and promotion of the drive to ensure maximum participation. The event featured the following activities:

- **Clothing Collection:** During the three-day drive, students and staff members were encouraged to donate their old but usable clothes. Collection bins were placed at strategic locations on the campus, making it convenient for everyone to contribute. The organizers ensured that the process of donating clothes was hassle-free and well-managed.
- **Promotion and Awareness:** SPANDANA utilized various channels to promote the event and raise awareness among the college community. Posters, banners, and digital media were employed to spread the word about the clothing drive. Information was shared through college newsletters, social media platforms, and announcements during lectures to ensure maximum participation and engagement.
- **Sorting and Distribution:** Following the conclusion of the donation drive, the collected clothes were sorted and organized by the SPANDANA team. They ensured that all donated items were in good condition and suitable for distribution. These clothes will then be distributed to local NGOs, charitable organizations, and communities in need, thereby fulfilling the purpose of the event.
- **Participation and Impact:** The Vastradana drive witnessed active participation from both students and staff members of Sir MVIT. The event received an overwhelming response, with a significant number of donations being collected during the three days. The generosity and altruism displayed by the college community contributed to the success of the drive.

The impact of the event extended beyond the act of donating clothes. It instilled a sense of empathy and social responsibility among the participants, helping them recognize the importance of giving back to society and supporting the less privileged. The event also fostered a spirit of unity and camaraderie within the college, as students and staff worked together towards a common humanitarian goal.

The Vastradana - Clothes Collection & Donation Drive organized by SPANDANA, the Social Outreach Club of Sir MVIT, was a resounding success. The event achieved its objectives of collecting old but usable clothes and distributing them to the needy. It also effectively raised awareness about the importance of clothing donations and fostered a sense of social responsibility among the college community.

We extend our heartfelt appreciation to SPANDANA and all the participants who made this event a grand success. Their contributions and support have made a significant difference in the lives of the less fortunate, emphasizing the power of collective action in creating positive change in society.

Dr. Rashmi K.V.

Faculty Mentor - SPANDANA



SRI KRISHNADEVARAYA EDUCATIONAL TRUST

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU-Belagavi, Recognized by AICTE and Accredited by NBA & NAAC)

Krishnadevarayanagar, Off International Airport Road, Hunasamaranahalli, Bengaluru - 562 157

SPANDANA
Social Outreach Club

Organizes

WASTELAND

June 19-21, 2023

2-4 PM

Near Coffee Shop

&

New Block Quadrangle



Share with our old clothes







Report of Vigilance Awareness Week **(26-10-2021 to 01-11-2021)**

Theme:

“Independent India @75: Self- Reliance with Integrity”

Various events / competitions were conducted at our college for staff and students during 26-10-2021 to 01-11-2021 from 9.00 am to 5.00 pm. The events were:

- Essay writing
- Guest Lecture
- Panel discussions
- Debates on moral values and ethics
- Prevention of corruption
- The Concept of “Integrity Pledge”



Principal Dr. V. R. Manjunath addressing the Staff and Students during the “Vigilance Awareness Week”.



The Staff and students are taking oath during the “Vigilance Awareness Week” administered by the Principal.



KARNATAKA
RENEWABLE ENERGY
DEVELOPMENT LTD.



INSTITUTION'S
INNOVATION
COUNCIL
(Ministry of R&D initiative)

A NATIONAL TECH FEST

DEC
16-17

EVENTS

OFFLINE MODE

QUIZ (₹150) ♦ TECHNICAL TROUBLESHOOTING (₹75) ♦ CHESS (₹75)
MASTER BLASTER (₹200) ♦ BGMI (₹200) ♦ DEBUGGING IN C (₹75)
ELECTROLOOP (₹75) ♦ J.A.M. (₹75) ♦ BLIND ART (₹100)
DUMB CHARADES (₹100) ♦ LOCK N KEY (₹150)

BLEND MODE

ESSAY WRITING IN ENGLISH/HINDI/KANNADA (₹75)
MEME MAKING (₹75) ♦ PHOTOGRAPHY/REELS (₹75)



PRESENTS

GREEN ENERGY & ENERGY CONSERVATION

WEEK 14TH - 21ST DECEMBER, 2022



ELECTROGREEN



REGISTER NOW

STUDENT COORDINATORS

ADITHYA DEEKSHITH
+91 9916606424

ZIKRA RAHMAN
+91 9709810701

ADARSH KUMAR GUPTA
+91 9123464110

FACULTY ADVISOR
DR. MAHESH K
PROFESSOR, EEE DEPT.
+91 9900119252



BIZOM

SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY



DEPARTMENT OF BIOTECHNOLOGY

NAAC: CRITERIA-2

2.3.1: STUDENT CENTRIC METHODS, SUCH AS EXPERIENTIAL LEARNING, PARTICIPATIVE LEARNING AND PROBLEM SOLVING



DEPARTMENT OF BIOTECHNOLOGY
 (Recognised as R & D Centre by VTU)

2.3.1 Instructional Methods/Innovative Teaching Methodologies AY: 2022-23

Sl.No.	Instructional Method	Teaching/Learning	Semester	Subject/ Subject Code	Faculty Name
1	Quiz	Learning	3	Microbiology 21BT34	Dr. Priya Narayan
2	Quiz		6	Food Process Engineering 18BT642	
3	Quiz		7	Clinical and Pharmaceutical BT 18BT72	
4	Quiz, Model		3	Unit Operations - 21BT32	Mrs. A. Niveditha
5	Quiz, Model		6	Bioprocess Equipment Design & CAED - 18BT62	
6	Quiz		5	Genomics and Proteomics 18BT54	Dr. Jagadeesh Kumar D
7	Quiz		4	Cell Biology & Cell Culture Techniques 21BT43	
8	Quiz		6	Marine BT 18BT842	
9	MCQs & Quiz		5	Chemical reaction Engineering 18BT52	Mr. Manjunath R
10	MCQs & Quiz		6	Process Control and Automation 18BT61	
11	Quiz, Software Tool Usage		4	Python Programming- 21BT42	Mrs. Halima R
12	Quiz		8	Regulatory Affairs in BT Industry- 18BT81	

HOD

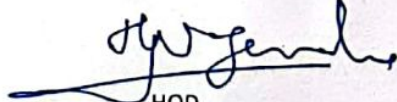
Dr H.G. Nagendra
 Professor & Head
 Department of Biotechnology
 Sir M. Visvesvaraya Institute of Technology
 BANGALORE - 562157



DEPARTMENT OF BIOTECHNOLOGY
 (Recognised as R & D Centre by VTU)

2.3.1 Instructional Methods/Innovative Teaching Methodologies
AY: 2021-22

Sl. No.	Instructional Method	Teaching/ Learning	Semester	Subject/ Subject Code	Faculty Name
1	Quiz	Learning	3	Microbiology 18BT32	Dr. Priya Narayan
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3	Quiz		7	Clinical and Pharmaceutical BT 18BT72	
4	Quiz, Model		3	Unit Operations - 18BT33	Mrs. A. Niveditha
5	Quiz, Model		6	Bioprocess - Equipment Design & CAED - 18BT62	
6	Quiz		3	Cell Biology and Genetics 18BT35	Dr. Jagadeesh Kumar D
7	Quiz		5	Genomics and Proteomics 18BT54	
8	Quiz		4	Clinical Biochemistry 18BT46	
9	Quiz		6	Marine BT 18BT842	
10	MCQs & Quiz		5	Chemical reaction Engineering 18BT52	Mr. Manjunath R
11	MCQs & Quiz		6	Process Control and Automation 18BT61	
12	Quiz, Software Tool Usage		3	Python Programming- 18BT36	Mrs. Halima R
13	Quiz		8	Regulatory Affairs in BT Industry- 18BT81	


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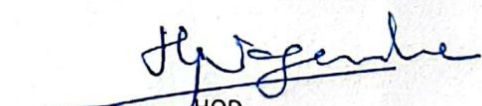
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2.3.1 Instructional Methods/Innovative Teaching Methodologies AY: 2020-21

Sl. No.	Instructional Method	Teaching/ Learning	Semester	Subject/ Subject Code	Faculty Name
1	Quiz	Learning	3	Microbiology 18BT32	Dr. Priya Narayan
2	Quiz		7	Food Process Engineering 17BT74	
3	Quiz		8	Clinical and Pharmaceutical BT 17BT81	
4	Quiz, Model		3	Unit Operations - 18BT33	Mrs. A. Niveditha
5	Quiz, Model		6	Bioprocess Equipment Design & CAED - 18BT62	
6	Quiz		3	Cell Biology and Genetics 18BT35	Dr. Jagadeesh Kumar D
7	Quiz		4	Clinical Biochemistry 18BT46	
8	Quiz		7	Genomics and Proteomics 17BT72	
9	MCQs & Quiz		5	Chemical reaction Engineering 18BT52	Mr. Manjunath R
10	MCQs & Quiz		6	Process Control and Automation 18BT61	
11	Quiz, Software Tool Usage		3	Python Programming- 18BT36	Mrs. Halima R
12	Quiz		8	Regulatory Affairs in BT Industry- 17BT82	


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2.3.1 Instructional Methods/Innovative Teaching Methodologies
AY: 2019-20

Sl. No.	Instructional Method	Teaching/ Learning	Semester	Subject/ Subject Code	Faculty Name
1	Quiz	Learning	3	Microbiology 18BT32	Dr. Priya Narayan
2	Quiz		7	Food Process Engineering 15BT74	
3	Quiz		8	Clinical and Pharmaceutical BT 15BT81	
4	Quiz, Model		3	Unit Operations - 18BT33	Mrs. A. Niveditha
5	Quiz, Model		6	Bioprocess Equipment Design & CAED - 17BT64	
6	Quiz		3	Cell Biology and Genetics 18BT35	Dr. Jagadeesh Kumar D
7	Quiz		4	Clinical Biochemistry 18BT46	
8	Quiz		7	Genomics and Proteomics 17BT72	
9	MCQs & Quiz		5	Chemical reaction Engineering 17BT52	Mr. Manjunath R
10	MCQs & Quiz		6	Process Control and Automation 17BT61	
11	Quiz, Software Tool Usage		3	Python Programming- 18BT36	Mrs. Halima R
12	Quiz		8	Regulatory Affairs in BT Industry- 15BT82	

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2.3.1 Instructional Methods/Innovative Teaching Methodologies
AY: 2018-19

Sl. No.	Instructional Method	Teaching/ Learning	Semester	Subject/ Subject Code	Faculty Name
1	Quiz	Learning	3	Microbiology 17BT36	Dr. Priya Narayan
2	Quiz		7	Food Process Engineering 15BT74	
3	Quiz		8	Clinical and Pharmaceutical BT 15BT81	
4	Quiz, Model		3	Unit Operations - 17BT32	Mrs. A. Niveditha
5	Quiz, Model		6	Bioprocess Equipment Design & CAED - 17BT64	
6	Quiz		3	Cell Biology and Genetics 17BT35	Dr. Jagadeesh Kumar D
7	Quiz		4	Clinical Biochemistry 17BT46	
8	Quiz		7	Genomics and Proteomics 15BT72	
9	MCQs & Quiz		5	Chemical reaction Engineering 15BT52	Mr. Manjunath R
10	MCQs & Quiz		6	Process Control and Automation 15BT61	
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