



## 6.5 Internal Quality Assurance System

**6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms and recorded the incremental improvement in various activities.**

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**VISWAJYOTHI**  
**COLLEGE OF ENGINEERING & TECHNOLOGY**  
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

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# **OUTCOME BASED EDUCATION (OBE)**

## **1.Vision and Mission**



# **VISWAJYOTHI**

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### **Vision**

**“Moulding Professionals par Excellence with Integrity, Fairness and Human Values”**

### **Mission**

- We commit to develop the institution into a Centre of Excellence of International Standards.
- We guide and mould our students in the attainment of intellectual and professional competence for successfully coping with the rapid and challenging advancements in technology and the ever changing world of business, industry and services.
- We help and support our students in their personal growth shaping them into mature and responsible individuals.
- We strive to cultivate a sense of social and civic responsibility in our students, empowering them to serve humanity.
- We promise to ensure a free environment where quest for the truth is encouraged.



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## Vision and Mission of the Institute

### Vision

"Moulding Professionals par Excellence with Integrity Fairness and Human Values"

Vision of Viswajyothi College of Engineering and Technology is to mould Engineers for tomorrow for the welfare of mankind and Society. We aim to give quality education for students with value added thoughts. Our academic motto includes Quality Education, Ethical Values and Spiritual Deeds and Conducts of all in Viswajyothi Family.

### Mission

- ✓ We commit to develop the institution into a Center of Excellence of International Standards.
- ✓ We guide and mould our students in the attainment of intellectual and professional competence for successfully coping with the rapid and challenging advancements in technologies and the ever changing world of business, industry and services.
- ✓ We help and support our students in their personal growth shaping them into mature and responsible individuals
- ✓ We strive to cultivate a sense of social and civic responsibility in our students, empowering them to serve humanity.
- ✓ We promise to ensure a free environment where quest for the truth is encouraged

## Vision and Mission of the department

### Vision

Moulding socially responsible and professionally competent Computer Engineers to adapt to the dynamic technological landscape





The students are not only trained for academic excellence but are also encouraged to acquire industry exposure through in-plant training sessions. The learning atmosphere being more practical oriented makes the transition from an educational institution to an industry effortless. The department is also responsible of contributing to local society as it excels in education and community contributions.

### Mission

- ✓ Foster the principles and practices of Computer Science to empower life – long learning and build careers in software and hardware development
- ✓ Impart value education to elevate students to be successful, ethical and effective problem-solvers to serve the needs of the industry, government, society and the scientific community.
- ✓ Promote industry interaction to pursue new technologies in Computer Science and provide excellent infrastructure to engage faculty and students in scholarly research activities

The department aims at technical and professional competency and also aids inculcating moral and ethical values. The alacrity of the students to learn makes it easier for the department of Computer Science and Engineering to produce top-notch engineers who are being recruited by companies all over the world. The department promotes awareness among student who graduates towards issues of social relevance and introduces them to professional ethics and practice.

The stakeholders are classified into two

1. Internal Stakeholders
2. External Stakeholders



**Internal stakeholders** are those persons who are direct beneficiaries of the program.

**External stakeholders** are the persons who got advantages indirectly i.e. through internal stakeholders (for e.g. students).

**Internal Stakeholders:**

Sl No	STAKEHOLDER	REMARKS
1	Board of Governors and Advisory Board	A board of governors is a several-member group that oversees or manages the running of the institution An advisory board is a body that provides non-binding strategic advice to the management.
2	Faculty and Non-teaching Staff	The faculty and non-teaching members are involved on regular basis in the assessment processes
3	Students	Product of the Institution and they are interested in whether the program adequately prepares them for developing their career.
4	Parents	They are interested to get their wards better education and employability

**External Stakeholders:**

Sl No	STAKEHOLDER	REMARKS
1	Employer	Represents the major end users of our graduates
2	Industry	Employer as well as participant in curriculum development and industry – institute activities
3	Alumni	Feedback from alumni can help in training students to meet recent trends in engineering
4	Society	Provides intangible outcome from the Institution perspective

The department vision and mission are derived from institute vision and mission. The department of Computer Science and Engineering has set its vision “Moulding socially



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responsible and professionally competent Computer Engineers to adapt to the dynamic technological landscape” in line with the institute vision of bringing the institute with quality education and social values. The engineering skills developed during the course of study makes students employable at various levels. The mission of this department is mainly to foster technical and professional competency along with moral and ethical values which is in line with the institute mission to cultivate a sense of social and civic responsibility in our students, thus empowering them to serve the humanity. Students also attain intellectual and professional competence for successfully exploring the rapid advancements in technologies and the ever changing world of business, industry and services.

### **Steps involved in defining the Mission and Vision of the department**

**Step 1:** Vision and Mission of the institute and program outcomes defined by NBA are taken as the base for defining the department vision and mission.

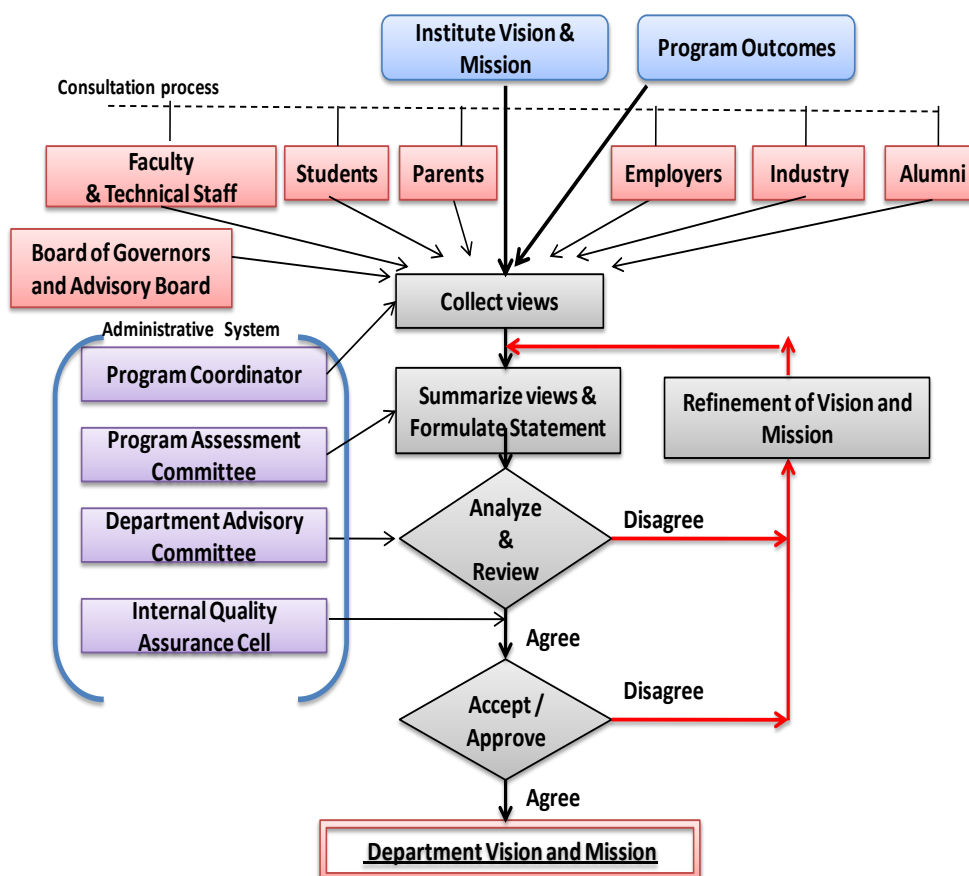
**Step 2:** Suggestions and views are taken by Program Coordinator, from stakeholders of the department such as faculty, students, alumni etc.

**Step 3:** Based on the collected views, statements of vision and mission were formulated by the Program Assessment Committee. These are then communicated to all the faculty members of the department and their feedback is obtained.

**Step 4:** The accepted views are analyzed and reviewed by the Department Advisory Committee to check the consistency with the vision and mission of the institute and finalized by the Internal Quality Assurance Cell.



## Process for Defining Vision and Mission of the Department





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## **2. SEMESTER PLAN & COURSE PLAN**





# **VISWAKALYAN COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**

**VISION: "Moulding Professionals par Excellence with Integrity, Fairness, and Human Values"**

**SEMESTER PLAN FOR S3, S5 & S7 KTU B.Tech CLASSES (August 17th - December 10th 2020)**

No. of working days for the odd semester		IMPORTANT DATES	
Month	Days		
August	10	Commencement of classes for S3, S5 & S7 and registration	
September	18	Assignment Module 1, Course selection registration and mapping begins	
October	22	Onam Celebration	
November	24	Onam holidays	
December	9	College re-opens	
<b>Total</b>	<b>83</b>	Course selection registration and mapping ends	
		Evaluation of first module	
		Assignment Module 2	
		Class Test	
		Exam Registration Begins	
		College level sports meet	
		Exam Registration ends	
		Second assignment to be completed	
		Class test	
		Class ends	
		Publish IA marks and attendance	
		Start date to forward the IA marks and attendance to Uty	
		Last date to forward the IA marks and attendance to Uty	
		Christmas Vacation	
		Odd semester exam begins	

August										September					October					November					December											
17	18-20	21	22, 24-25	26	27	7	8	9	11, 14-19	22-26, 28	29	30	1, 3	5-7	8-9	12-17	19-23	27-28 30-31	2-7 9-13	16-21	23-28	30	1-5	7-10	11	14	17	19-27	29							
Commencement of regular classes for S3, S5 & S7 and registration			Regular classes		Regular class		Course selection registration and mapping		Regular classes		Regular Class		Class Test		Regular classes		Class Test		Regular classes		Regular Class		Regular Class		December 10th class ends		Publish internal marks and attendance		Start date to forward th IA marks and attendance to university		Last date to forward th IA marks and attendance to university		Christmas vacation		Odd semester examination begins	
1	3	1	3	1	1	1	1	1	7	6	1	1	2	3	2	6	5	4	11	6	6	1	5	4												
1	4	5	8	9	10	11	12	13	20	26	27	28	30	33	35	41	46	50	61	67	73	74	79	83												

*Principal*

# Course Plan

## MODULE I

No	Date & Day	Hr	Topics to be Covered
1	01.08.2018 Wednesday-6	1	System Software Vs. Application Software, Different System Software– Assembler, Linker, Loader, Macro Processor, Text Editor
2	02.08.2018 Thursday-4	1	Different System Software-Debugger, Device Driver, Compiler, Interpreter, Operating System
3	03.08.2018 Friday-1	1	Tutorial 1
4	06.08.2018 Monday-4	1	SIC & SIC/XE Architecture: memory, registers, Data format
5	08.08.2018 Wednesday -6	1	SIC & SIC/XE Architecture: Instruction format
6	09.08.2018 Thursday-4	1	SIC & SIC/XE Architecture: Addressing modes
7	10.08.2018 Friday-1	1	Tutorial 2
8	13.08.2018 Monday-4	1	SIC & SIC/XE Architecture: Instruction set, Input and Output
9	16.08.2018 Thursday-4	1	Assembler Directives and SIC & SIC\XE Programming
10	17.08.2018 Friday-1	1	Tutorial 3
11	20.08.2018 Monday-4	1	SIC & SIC\XE Programming
12	30.08.2018 Thursday-4	1	SIC & SIC\XE Programming
13	31.08.2018 Friday-1	1	Tutorial 4
		9+4	10



## Course Plan

MODULE II			
No	Date & Day	Hr	Topics to be Covered
14	03.09.2018 Monday-4	1	Basic Functions of Assembler Assembler output format – Header, Text and End Records Assembler data structures
15	05.09.2018 Wednesday-6	1	Two pass assembler algorithm
16	06.09.2018 Thursday-4	1	Two pass assembler algorithm
17	07.09.2018 Friday-1	1	Tutorial 5
18	10.09.2018 Monday-4	1	Hand assembly of SIC/XE program
19	12.09.2018 Wednesday-6	1	Machine dependent assembler features
20	13.09.2018 Thursday-4	1	Machine dependent assembler features
21	14.09.2018 Friday-1	1	Tutorial 6
		6+2	

## Course Plan

### MODULE III

No	Date & Day	Hr	Topics to be Covered
22	17.09.2018 Monday-4	1	Machine Independent assembler features
23	19.09.2018 Wednesday-6	1	program blocks
24	24.09.2018 Monday	1	Control sections
25	26.09.2018 Wednesday-6	1	Assembler design options- Algorithm for Single Pass assembler
26	27.09.2018 Thursday-4	1	Algorithm for Single Pass assembler
27	28.09.2018 Friday-1	1	Tutorial 7
28	01.10.2018 Monday-4	1	Multi pass assembler
29	03.10.2018 Wednesday-6	1	mplementation example of MASM Assembler
		7+1	

## Course Plan

### MODULE IV

No	Date & Day	Hr	Topics to be Covered
30	04.10.2018 Thursday-4	1	Basic Loader functions - Design of absolute loader
31	05.10.2018 Friday-1	1	Tutorial 8
32	08.10.2018 Monday-4	1	Simple bootstrap Loader
33	10.10.2018 Wednesday-6	1	Machine dependent loader features- Relocation
34	11.10.2018 Thursday-4	1	Program Linking
35	12.10.2018 Friday-1	1	Tutorial 9
36	15.10.2018 Monday-4	1	Algorithm and data structures of two pass Linking Loader
37	17.10.2018 Wednesday-6	1	Machine dependent loader features
38	22.10.2018 Monday-4	1	Loader Design Options
		7+2	

MODULE V			
No	Date & Day	Hr	Topics to be Covered
39	24.10.2018 Wednesday-6	1	Macro Instruction Definition and Expansion
40	25.10.2018 Thursday-4	1	One pass Macro processor Algorithm and data structures
41	26.10.2018 Friday-1	1	Tutorial 10
42	29.10.2018 Monday-4	1	One pass Macro processor Algorithm and data structures
43	31.10.2018 Wednesday-6	1	Machine Independent Macro Processor Features
44	01.11.2018 Thursday-4	1	Machine Independent Macro Processor Features
45	02.11.2018 Friday-1	1	Tutorial 11
46	05.11.2018 Monday-4	1	Macro processor design options
47	07.11.2018 Wednesday-6	1	Macro processor design options
		7+2	

## Course Plan

### MODULE VI

No	Date & Day	Hr	Topics to be Covered
48	08.11.2018 Thursday-4	1	Anatomy of a device driver, Character and block device drivers
49	09.11.2018 Friday-1	1	Tutorial 12
50	12.11.2018 Monday-4	1	General design of device drivers
51	14.11.2018 Wednesday-6	1	Overview of Editing, User Interface
52	15.11.2018 Thursday-4	1	Editor Structure
53	16.11.2018 Friday-1	1	Tutorial 13
54	19.11.2018 Monday-4	1	Debugging Functions and Capabilities
55	21.11.2018 Wednesday-6	1	Relationship with other parts of the system
56	22.11.2018 Thursday-4	1	Debugging Methods- By Induction, Deduction
57	23.11.2018 Friday-1	1	Tutorial 14
58	26.11.2018 Monday-4	1	Debugging Methods- By Induction, Deduction
		8+3	
59	28.11.2018 Wednesday-6	1	Discuss Previous Year Qestion Papers
60	29.11.2018 Thursday-4	1	Discuss Previous Year Qestion Papers

*S. Srinivas*



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## 3. COURSE INFORMATION SHEET



**COURSE DATA SHEET**

PROGRAMME: COMPUTER SCIENCE & ENGINEERING	DEGREE: B TECH
COURSE: SYSTEM SOFTWARE	SEMESTER: V CREDITS: 3
COURSE CODE: C302	COURSE TYPE: CORE
COURSE AREA/STREAM: SYSTEM SOFTWARE AND COMPUTATIONAL METHODOLOGY	CONTACT HOURS: 3+1 (Tutorial) hours/Week.
CORRESPONDING LAB COURSE CODE (IF ANY): C 308	LAB COURSE NAME: SYSTEM SOFTWARE LAB
COURSE COORDINATOR NAME : DONA JOSE	

**SYLLABUS:**

MODULE	DETAILS	HOURS
I	System Software Vs. Application Software, Different System Software– Assembler, Linker, Loader, Macro Processor, Text Editor, Debugger, Device Driver, Compiler, Interpreter, Operating System(Basic Concepts only) SIC & SIC/XE Architecture, Addressing modes, SIC & SIC/XE Instruction set, Assembler Directives and Programming.	8
II	Assemblers Basic Functions of Assembler. Assembler output format – Header, Text and End Records- Assembler data structures, Two pass assembler algorithm, Hand assembly of SIC/XE program, Machine dependent assembler features	6
III	Assembler design options: Machine Independent assembler features – program blocks, Control sections, Assembler design options Algorithm for Single Pass assembler, Multi pass assembler, Implementation example of MASM Assembler	7
IV	Linker and Loader Basic Loader functions - Design of absolute loader, Simple bootstrap Loader, Machine dependent loader features- Relocation, Program Linking, Algorithm and data structures of two pass Linking Loader, Machine dependent loader features, Loader Design Options.	7
V	Macro Preprocessor:- Macro Instruction Definition and Expansion. One pass Macro processor Algorithm and data structures, Machine Independent Macro Processor Features, Macro processor design options	7
VI	Device drivers: Anatomy of a device driver, Character and block device drivers, General design of device drivers Text Editors: Overview of Editing, User Interface, Editor Structure. Debuggers :- Debugging Functions and Capabilities, Relationship with other parts of the system, Debugging Methods- By Induction, Deduction and Backtracking.	8
<b>TOTAL HOURS</b>		<b>43</b>

**TEXT/REFERENCE BOOKS:**

T/R	BOOK TITLE/AUTHORS/PUBLICATION
1	Leland L. Beck, System Software: An Introduction to Systems Programming, 3/E, Pearson Education Asia.
2	D.M. Dhamdhare, Systems Programming and Operating Systems, Second Revised Edition, Tata



	McGraw Hill.
3	John J. Donovan, Systems Programming, Tata McGraw Hill Edition 1991.
4	Writing UNIX device drivers - George Pajari – Addison Wesley Publications (Ebook : <a href="http://toCS.ulb.tu-darmstadt.de/197262074.pdf">http://toCS.ulb.tu-darmstadt.de/197262074.pdf</a> ).
5	Peter Abel, IBM PC Assembly Language and Programming, Third Edition, Prentice Hall of India.
6	Jonathan Corbet, Alessandro Rubini, Greg Kroah-Hartman, Linux Device Drivers, Third Edition, O.Reilly Books
7	M. Beck, H. Bohme, M. Dziadzka, et al., Linux Kernel Internals, Second Edition, Addison Wesley Publications,
8	J Nithyashri, System Software, Second Edition, Tata McGraw Hill.
9	<a href="http://gcc.gnu.org/onlinedocs/gcc-2.95.3/cpp_1.html">http://gcc.gnu.org/onlinedocs/gcc-2.95.3/cpp_1.html</a> - The C Preprocessor

#### COURSE PRE-REQUISITES:

C.CODE	COURSE NAME	DESCRIPTION	SEM
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#### COURSE OBJECTIVES:

1	To make students understand the design concepts of various system software like Assembler, Linker, Loader and Macro pre-processor, Utility Programs such as Text Editor and Debugger.
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#### COURSE OUTCOMES:

Number of Course Outcomes expected to be around six.

SNO	DESCRIPTION
C302.1	Distinguish different software into different categories..
C302.2	Design, analyze and implement one pass, two pass or multi pass assembler
C302.3	Design, analyze and implement loader and linker.
C302.4	Design, analyze and implement macro processors.
C302.5	Critique the features of modern editing /debugging tools.

#### CORELATION BETWEEN COURSE OUTCOMES AND PROGRAMME OUTCOMES

SNO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C302.1	3	1	1	1	-	-	-	-	-	-	-	-
C302.2	3	2	2	1	1	-	-	-	-	-	-	2
C302.3	3	2	2	1	1	-	-	-	-	-	-	2
C302.4	3	2	2	-	1	-	-	-	-	-	-	1
C302.5	3	2	2	2	-	-	-	-	-	-	-	2
C302	3	1.8	1.8	1.25	1	0	0	0	0	0	0	1.75

JUSTIFICATION FOR CORELATION		
SNO	RELATED POs	JUSTIFICATION
C302.1	PO1 PO2 PO3 PO4	<p><b>PO1:</b> System Software should be concerned with the application of computers, computing, and software to practical purposes, specifically the design, construction, and operation of efficient and economical computing system.</p> <p><b>PO2:</b> It helps to analyze complex engineering problems and to identify the purpose of different system softwares.</p> <p><b>PO4 :</b> use the concepts and differences of various system softwares in order to understand the working of softwares.</p> <p><b>PO12 :</b> acquired the knowledge about different system softwares for their future use.</p>
C302.2	PO1 PO2 PO3 PO4 PO5 PO12	<p><b>PO1:</b> It helps to understand macro processors and is able to apply this knowledge in various engineering applications.</p> <p><b>PO2:</b> able to analyze complex programs using principle of engineering science.</p> <p><b>PO3:</b> Design of Macro processor allows the programmer to write shorthand version of a program so it can reduce the complexity of large problems.</p> <p><b>PO4:</b> Use the knowledge of macro processors and its designing steps to generate and implement macros in programming languages.</p> <p><b>PO5:</b> a c- preprocessor is a text substitution tool that is used to do required pre-processing before actual compilation so it will increase the speed of execution and reduce the complexity of the problem.</p> <p><b>PO12 :</b> The basic functions and working of a macro processor helps for the use of latest macroprocessors in future.</p>
C302.3	PO1 PO2 PO3 PO4 PO5 PO12	<p><b>PO1:</b> It helps to understand assembly language concepts and basic function of an assembler.</p> <p><b>PO2:</b> Study of Assemblers will help us to know the translator programs supplied by the manufacturer .</p> <p><b>PO3:</b> able to design single pass or two pass assembler to solve engineering problems.</p> <p><b>PO4 :</b> Use the knowledge of comparison among single pass and two pass to design an assembler.</p> <p><b>PO5:</b> The Microsoft Macro Assembler is a tool that consumes x86 assembly language programs and generates corresponding binaries.</p> <p><b>PO12 :</b> familiarization of assembly languages and working of assemblers helps to develop applications based on microprocessor systems</p>
C302.4	PO1	<p><b>PO1:</b> loaders and linkers are the softwares used for handling object files and executable files for a program. It will increase the efficiency and modularity of</p>

	PO2 PO3 PO5 PO12	<p>complex problems.</p> <p><b>PO2:</b> help to analyze the two passes of a linking loader, this will increase the efficiency of system software.</p> <p><b>PO3:</b> acquiring knowledge regarding the passes of loader and linkage editor for designing the different phases.</p> <p><b>PO5:</b> able to apply the tool UNIX ELF and Microsoft DLL to reduce the complexity of the design of system software.</p> <p><b>PO12:</b> memory management and loading schemes is a continuous learning for the execution of any applications</p>
C302.5	PO1 PO2 PO3 PO4 PO12	<p><b>PO1:</b> Knowledge about text editors and debuggers will help to reduce the complexity of complex engineering problems.</p> <p><b>PO2:</b> To know about the primary interface and the observation and flow of control of program execution will help to analyze and reduce the complexity of problems.</p> <p><b>PO3:</b> Design of VI editor helps to analyze and improve the efficiency of text editing.</p> <p><b>PO4 :</b> use the knowledge of different debugging methods to test a programming language in order to obtain valid solutions.</p> <p><b>PO8:</b> Apply the ethical principles of different debugging methods.</p> <p><b>PO12:</b> knowledge about editing and debugging is required for testing applications as a QA analysts.</p>

#### CORELATION BETWEEN COURSE OUTCOMES AND PROGRAMME SPECIFIC OUTCOMES

SNO	PSO 1	PSO 2	PSO 3
C302.1	2	2	2
C302.2	3	2	-
C302.3	3	1	-
C302.4	1	2	-
C302.5	2	2	1
C302	2.2	1.8	1.5

#### JUSTIFICATION FOR CORELATION

SNO	RELATED PSOs	JUSTIFICATION
C302.1	PSO1	<b>PSO1:</b> Theoretical and practical knowledge of different system softwares are essential for human beings to interact with computers.
	PSO2	
	PSO3	<b>PSO2:</b> apply the knowledge of various system softwares to learn

		the complete implementation of a system. PSO3 :able to design different system softwares for minor-projects.
C302.2	PSO1 PSO2 PSO3	PSO1:Macro allows the programmer to write shorthand version of a program. PSO2:Macro Preprocessor design and algorithm will help to reduce the complexity of large programs. PSO3:Able to design a macro processor by learning the concepts and functions of macro.
C302.3	PSO1 PSO2	PSO1: Depends upon the Machine architecture the programmer can design an Assembler PSO2:Able to understand the working of assembler inorder to implement assembly language programs.
C302.4	PSO1 PSO2	PSO1:Linker and Loader are needed for executing engineering problems PSO2:To know the algorithm for two passes of a linking loader,this will increase the efficiency of system software
C302.5	PSO1 PSO2 PSO3	PSO1:An interactive text editing and Debugging system provides programmers with facilities that aids in editing ,testing and debugging of programs. PSO2: The primary interface and the flow of control of program execution will help to analyze and reduce the complexity of problems. PSO3: Features and knowledge of different debugging methods can be used for better performance in testing projects.

#### GAPS IN THE SYLLABUS - TO MEET INDUSTRY/PROFESSION REQUIREMENTS:

SNO	DESCRIPTION	PROPOSED ACTIONS
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#### TOPICS BEYOND SYLLABUS/ADVANCED TOPICS/DESIGN:

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#### WEB SOURCE REFERENCES:

1	<a href="http://nptel.iitm.ac.in">http://nptel.iitm.ac.in</a>
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#### DELIVERY/INSTRUCTIONAL METHODOLOGIES:

CHALK & TALK	STUD. ASSIGNMENT	WEB RESOURCES	TUTORIAL	LCD
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**DELIVERY METHODS USED FOR EACH COURSE OUT COME**  
**DELIVERY METHODS**

SNO	
C302.1	Chalk & Talk, LCD
C302.2	Chalk & Talk, Students assignments, Tutorial, LCD, Web resources
C302.3	Chalk & Talk, LCD
C302.4	Chalk & Talk, Tutorial, LCD
C302.5	Chalk & Talk, Students assignments, LCD, Web resources

**ASSESSMENT METHODOLOGIES-DIRECT**

ASSIGNMENTS	TESTS/MODEL EXAMS	UNIV. EXAMINATION
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**ASSESSMENT METHODOLOGIES-INDIRECT**

STUDENT FEEDBACK ON FACULTY (TWICE)
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**ASSESSMENT METHODOLOGIES USED FOR EACH COURSE OUT COME**

SNO	ASSESSMENT METHODOLOGIES-DIRECT	ASSESSMENT METHODOLOGIES-INDIRECT
C302.1	Tests, Univ.Exam	Student feed back on faculty
C302.2	Tests, Assignment, Univ.Exam	Student feed back on faculty
C302.3	Tests, Univ.Exam	Student feed back on faculty
C302.4	Tests, Univ.Exam	Student feed back on faculty
C302.5	Tests, Assignments, Univ.Exam	Student feed back on faculty

Prepared by

(Course Coordinator)

  
Mrs. Dona Jose

Verified by

(Stream Coordinator)

  
Mrs. Dona Jose

Approved by

(Program Coordinator)

  
Dr. K.N. Ramachandran Nair



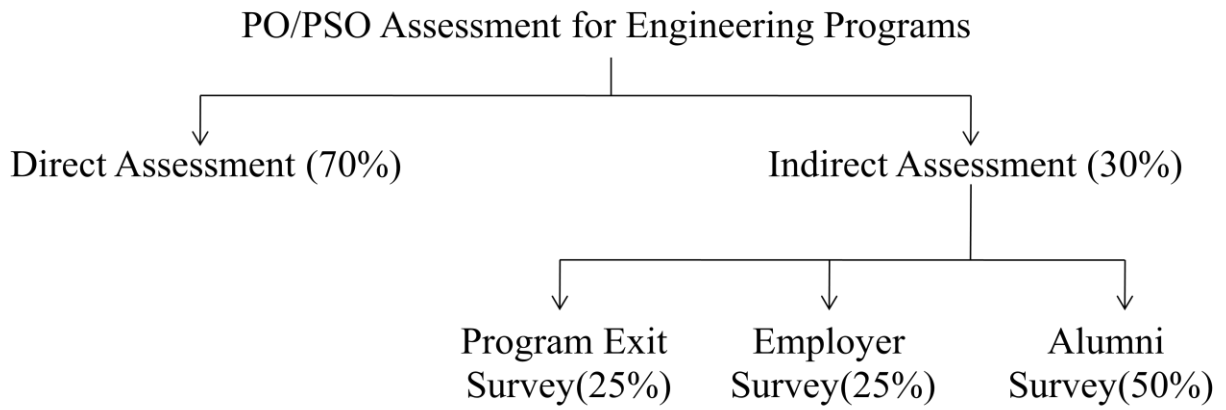
**VISWAJYOTHI**  
**COLLEGE OF ENGINEERING & TECHNOLOGY**

Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha  
Ernakulam Dist., Kerala - 686 670  
Tel: 0485 2262211 / 44  
Email: [vcet@vcet.org](mailto:vcet@vcet.org)  
[www.vcet.org](http://www.vcet.org)



## **4. DIRECT & INDIRECT ASSESSMENT**







**VISWAJYOTHI COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**Alumni Survey Form**

Name : GREEISHMA RAJ

Date: 9/6/17

Year of Graduation : 2015

Sector : ☒ Private

☐ Public

☐ Academia

Organization : ~~XYZ~~

Designation :

Address :

Phone : 9746448515 E-Mail: marygreeshma@gmail.com

**1. Assessment of Knowledge, Skills, Abilities, Attitude and Attributes acquired at Viswajyothi College.**

Please rate each of the following Knowledge, Skills, Abilities, Attitude and attributes in terms of how well Viswajyothi college inculcated them in your education

Sl.No	Overall, are you satisfied with:	Extremely Satisfied	Satisfied	Somewhat Satisfied
1	Basic knowledge in mathematics, science, engineering and humanities.	✓		
2	Ability to identify, design, analyze and solve computer engineering problems.	✓		
3	Design / development of complex engineering problems and their solutions		✓	
4	Use of research-based knowledge and research methods			✓
5	Demonstrate the ability to apply advanced technologies to solve contemporary and new problems.			✓
6	Understanding professional engineering solutions in societal and environmental contexts		✓	
7	Awareness to apply engineering solutions in global, national, and societal contexts.	✓		
8	Understanding of professional and ethical responsibilities	✓		
9	Ability to function as an effective member in multi-disciplinary teams	✓		
10	Proficiency in English language in both communicative and technical forms		✓	
11	Demonstrate the ability to choose and apply appropriate resource management techniques	✓		
12	Capable of self-education and clear understanding of the value of updating their professional knowledge to engage in life-long learning.		✓	
13	Ability to integrate theory and practice to construct software systems of varying complexity.	✓		



## Employer Survey Form

The purpose of this survey is to obtain Employers' input on the quality of education of undergraduate programs in Viswajyothi College. Your sincere cooperation would enable us to improve the quality of our graduates as per your requirements

1. Name of Company/Organization : Infosys Limited

2. Mailing Address : Corporate Headquarters, Electronic City, Hosur Road, Bengaluru – 560 100

3. Sector ☒ Private ☐ Public ☐ Academia

4. What are the pertinent employability skills to stay updated in current industry trends and there by improve the quality of the undergraduate program?

Exposure to Artificial intelligence, Robotics, Nano technology etc. along with basic technology skills

Focus on technology and the openness to adapt to the changing world

Positive attitude and commitment towards business

Proactiveness and the ability to take initiatives

5. Rate the VJCET graduates working in your organization using the following criterion. Put a tick mark(✓)

**Knowledge, Skills, Abilities, Attitude and other Attributes expected out of VJCET graduates**

Sl.No	Overall, are you satisfied with:	Extremely Satisfied	Satisfied	Somewhat Satisfied
1	Capacity for development and analysis of engineering problems and formulation of appropriate solutions, retaining professional and ethical responsibilities.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Aptitude for self education, ability to learn new skills and a clear appreciation for the value of lifelong learning to update professional knowledge	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Understanding professional engineering solutions for sustainable development and their application in global, national and societal contexts.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
4	Competence for acquiring new skills and applying them in research and development	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
5	Fundamental knowledge in mathematics and science and professional fluency in English both communicative and technical forms	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Dexterity in differentiation of management techniques and possession of leadership skills that enable successful function of multi-disciplinary teams	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

## **PROGRAM EXIT SURVEY**

[click here](#)



**VISWAJYOTHI**

**COLLEGE OF ENGINEERING & TECHNOLOGY**

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Vazhakulam P.O., Muvattupuzha  
Ernakulam Dist., Kerala - 686 670  
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Email: [vcet@vcet.org](mailto:vcet@vcet.org)  
[www.vcet.org](http://www.vcet.org)



## 5. INTERNAL ASSESSMENT

Roll No.:

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY

Name: \_\_\_\_\_

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

SYSTEM SOFTWARE – CS 303 – SS CSE A & B

Class Test 1 – September 2018

Max. Marks: 30

Duration: 1 Hour

**PART A**

*Answer all questions, each carries 3 marks.*

		Marks	CO	Taxonomy
1	What are assembler directives? List any six assembler directives in SIC machine.	(3)	C302.1	Comprehension
2	What are the input and output operations supported by SIC and SIC/XE machine	(3)	C302.1	Comprehension
3	Describe the format of object program generated by the two-pass SIC assembler algorithm	(3)	C302.2	Comprehension
4	What is the need for modification record? Describe its format.	(3)	C302.2	Application

**PART B**

*Answer any two full questions, each carries 9 marks*

- |   |  |     |        |               |
|---|--|-----|--------|---------------|
| 5 | a) Explain different system softwares.   | (5) | C302.1 | Comprehension |
|   | b) With suitable example, explain the concept of Program Relocation.   | (4) | C302.2 | Application   |
| 6 | a) Explain the instruction format and addressing modes of SIC machine  | (3) | C302.1 | Comprehension |
|   | b) Give the algorithm for pass 1 of a two pass SIC assembler.  | (6) | C302.2 | Synthesis     |
| 7 | a) Suppose that ALPHA is an array of 100 words. Write a sequence of instructions for SIC/XE to find the maximum element in the array and store the result in MAX | (5) | C302.1 | Application   |
|   | b) Describe the data structures used in the two pass SIC assembler algorithm   | (4) | C302.2 | Comprehension |

\*\*\*\*



Dona Jose  
Course Coordinator



Dona Jose  
Stream Coordinator



Dr. K.N. Ramachandran Nair  
Program Coordinator

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY  
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
INTERNAL TEST 1 –SEPTEMBER 2018-ANSWER KEY  
SYSTEM SOFTWARE (CS 303) - S5 CSE A&B

1.

- They provide instructions to the assembler itself
- They are not Translated into machine instructions
- SIC Assembler directives are:
  - START
  - END
  - BYTE
  - WORD
  - RESB
  - RESW

*[Assembler directive-definition(1 mark), List of assemble directives(2 marks)]*

2.

○ **Input and Output**

▪ **SIC**

- Three I/O instructions
  - Test Device (TD) instruction
    - Tests whether the addressed device is ready to send or receive a byte of data. The conditional code(CC) is set to indicate the result of this test.
      - CC : < means device is ready
      - CC : = means device is not ready
  - Read Data (RD)
  - Write Data (WD)

▪ **SIC\XE**

- It supports all the I/O instructions of SIC. It also supports the following:
- There are I/O channels that can be used to perform input and output while the CPU is executing other instructions
  - SIO: start the operation of I/O channels
  - TIO: test the operation of I/O channels
  - HIO: halt the operation of I/O channels

*[IO operations supported by SIC(1.5 Marks), SIC\XE(1.5 Marks)]*

3.

	Column	Contents
Header Record	1	H
	2-7	Program name
	8-13	Starting address of object program (HEX)
	14-19	Length of object program in bytes (HEX)
Text Record	1	T
	2-7	Starting address for object code in this record (HEX)
	8-9	Length of object code in this record in bytes (HEX)
	10-69	Object code (HEX, 2 columns per byte of object code)
End Record	1	E
	2-7	Address of first executable instruction in object program (HEX)

*[Header Record(1 Mark), Text Record(1 Mark), End Record(1 Mark)]*

4.

- Relocatable program is a program that can be loaded into memory where there is a room, rather than specifying a fixed address at assembly time.
- The assembler produces a Modification record to store the starting location and the length of the address field to be modified.

Mod. Record	1	M
	2-7	Starting location of the address field to be modified, relative to the beginning of the program (HEX)
	8-9	Length of the address field to be modified, in half-bytes (HEX)

*[Need for Modification Record (1 Mark), Format(2 Marks)]*

5.

a.

System software is a computer software designed to operate and control the computer hardware and to provide a platform for running application software.

Different System Softwares are:

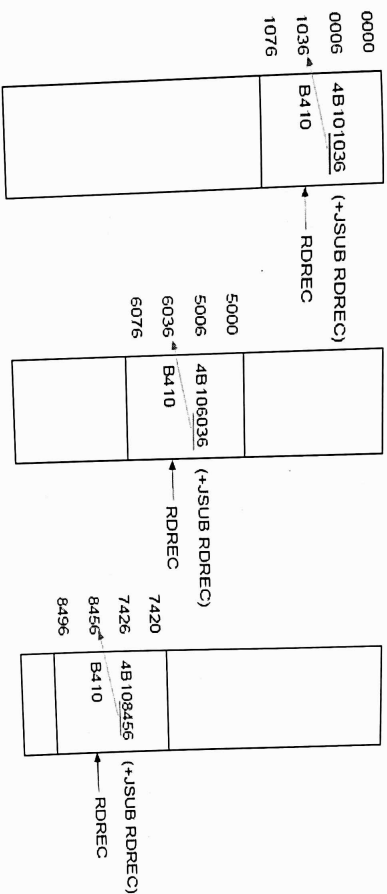
1. Macro processor
2. Assembler
3. Linker
4. Loader
5. Text Editor
6. Debugger
7. Device Driver
8. Compiler
9. Interpreter
10. Database Management System
11. Operating System



b.

- Consider the following SIC/XE program

COPY	START	0
0000	-----	-----
0006	CLOOP	+JSUB RDREC 4B101036
0036	RDREC	CLEAR X B410



- The above diagram shows the concept of relocation. Initially the program is loaded at location 0000. The instruction JSUB is loaded at location 0006. The address field of this instruction contains 01036, which is the address of the instruction labeled RDREC.
- The second figure shows that if the program is to be loaded at new location 5000. The address of the instruction JSUB gets modified to new location 6036.
- The third figure shows that if the program is relocated at location 7420, the JSUB instruction would need to be changed to 4B108456 that correspond to the new address of RDREC.

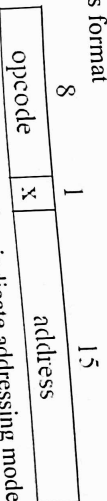
[Example (2 Marks), Explanation (2 Marks)]

6.

a.

### Instruction Formats

24-bits format



The flag bit  $x$  is used to indicate addressing modes

### Addressing Modes

There are two addressing modes available, indicated by  $x$  bit in the instruction

- Direct-addressing mode

b. Indexed-addressing mode

Mode	Indication	Target address calculation
Direct	X=0	TA=address
Indexed	X=1	TA=address+(X)

(X) represents the contents of reg X  
[Instruction format (1.5 Marks), Addressing modes (1.5 Marks)]

b.

Assembler Pass 1:

```

begin
  read first input line
  if OP CODE = 'START' then
    begin
      save #[OPERAND] as starting address
      initialize LOCCCTR to starting address
      write line to intermediate file
      read next input line
      end {if START}
    else
      initialize LOCCCTR to 0
      while OPCODE != 'END' do
        begin
          if this is not a comment line then
            begin
              if there is a symbol in the LABEL field then
                begin
                  search SYMTAB for LABEL
                  if found then
                    set error flag (duplicate symbol)
                  else
                    insert (LABEL, LOCCCTR) into SYMTAB
                  end {if symbol}
                  search OPTAB for OPCODE
                  if found then
                    add 3 {instruction length} to LOCCCTR
                  else if OPCODE = 'WORD' then
                    add 3 to LOCCCTR
                  else if OPCODE = 'RESW' then
                    add 3 * #[OPERAND] to LOCCCTR
                  else if OPCODE = 'RESB' then
                    add #[OPERAND] to LOCCCTR
                  else if OPCODE = 'BYTE' then
                    begin
                      find length of constant in bytes
                      add length to LOCCCTR
                    end {if BYTE}
                  else
                    set error flag (invalid operation code)
                  end {if not a comment}
                write line to intermediate file
                read next input line
              end {while not END}
            write last line to intermediate file
            save (LOCCCTR - starting address) as program length
            end {Pass 1}
          
```

[Algorithm (6 Marks)]

a.

LDS	#3	
LDT	#300	
LDX	#0	
CLOOP	LDA	ALPHA, X
COMP	MAX	
JLT	NOCH	
STA	MAX	
NOCH	ADDR	S, X
COMPR	X, T	
JLT	CLOOP	

ALPHA	RESW	100
MAX	WORD	-32768

[program (5 Marks)]

b.

### Assembler data structures

Assembler uses three main data structures

- Location Counter(LOCCTR)
- Operation Code Table(OPTAB)
- Symbol Table(SYMTAB)

### LOCCTR

- It is a variable that is used to help in the assignment of addresses.
- LOCCTR is initialized to be the beginning address specified in the "START" statement. After each statement is processed, the length of the assembled instruction or data area to be generated is added to LOCCTR
- $LOCCTR = LOCCTR + (\text{instruction length/size of data area})$
- The current value of LOCCTR gives the address to the label encountered

### OPTAB

- Used to lookup mnemonic operation codes and translate them to their machine language equivalent.
- It must contain the mnemonic operation code and its machine language equivalent.
- It may contain instruction format and length.
- In Pass 1:
  1. OPTAB is used to look up and validate operation code in the source program.
  2. Must search the OPTAB to find the instruction length for incrementing LOCCTR.
- In Pass 2
  1. OPTAB is used to translate the operation codes to machine language.
  2. It is used to find which instruction format is used.
- The information in OPTAB is predefined when the assembler itself is written.
- Implementation

1. Design a special hash table with mnemonic operation code as the key. It provides fast retrieval with minimal searching.
2. It is a static table. Entries are not normally added to or retrieved from it.

### **SYMTAB**


- SYMTAB contains name and address for each label in the source program, together with flags to indicate error conditions (Ex: symbols defined in two different places).
- It may also contain label type, length etc.
- Pass 1: Labels are entered in to SYMTAB along with their assigned addresses (from LOCCTR)
- Pass 2: Operands are looked up in SYMTAB to obtain the addresses to be inserted in the assembled instructions.
- It is a dynamic table. Usually organize as a hash table for efficiency of insertion and retrieval. Choose the hash function carefully

*[LOCCTR (1 Mark), OPTAB (1.5 Marks), SYMTAB(1.5 Marks)]*

**VISWAJYOTHI COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**

**SERIES EXAMINATION - NOVEMBER 2019**


**INVIGILATION DUTY LIST**

			Sl No.	Name	1-Nov-19	2-Nov-19	2-Nov-19	4-Nov-19	4-Nov-19	5-Nov-19
					Friday	Saturday		Monday		Tuesday
					FN 9:30am - 11:30 am	FN 9:30am - 11:30 am	AN 1:45pm - 3:45 pm	FN 9:30am - 11:30 am	AN 1:45pm - 3:45 pm	FN 9:30am - 11:30 am
CIVIL ENGINEERING (CE)	CE	1	1	Dr. Anoop C K		X		X		
	CE	2	2	Mrs. Tina Jose				X		X
	CE	3	3	Mrs. Bijimol Joseph	X			X		
	CE	4	4	Mrs. Minu C Joy	X			X		
	CE	5	5	Mrs. Amrutha S			X		X	
	CE	6	6	Mrs.Devina Vipinan		X			X	
	CE	7	7	Mr. Appu John				X		X
	CE	8	8	Mr. Lins Paul Kuriakose		X	X		X	
	CE	9	9	Mrs. Tintu Shine A L	X	X				X
	CE	10	10	Mrs. Jerin Jose	X		X	X		
	CE	11	11	Mrs. Nivya Mary Abraham	X		X			X
	CE	12	12	Mrs. Anu Paul	X	X			X	
	CE	13	13	Mr. Daniel A V	X		X			X
	CE	14	14	Ms. Rose Mary Xavier	X		X			X
	CE	15	15	Ms. Vineetha Thankachan	X	X			X	
	CE	16	16	Mr. Vishnu Krishnan	X		X			X
	CE	17	17	Mrs. Nisa AnnMathew	X		X		X	
	CE	18	18	Mrs. Ancy Genu George			X		X	X
	CE	19	19	Ms. Jane Rose Francis	X			X	X	
	CE	20	20	Ms. Merlin Jose			X	X		X
	CS	21	1	Dr. Anishin Raj M M	X		X			
	CS	22	2	Mrs.Silpa Joseph		X		X		
	CS	23	3	Mr.Shibu K R		X			X	
	CS	24	4	Mrs.Sindhu Jose					X	X
	CS	25	5	Mrs.Mili Els Jose		X		X		

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COMPUTER SCIENCE ENGINEERING (CS)	CS	26	6	Mrs.Mayadevi P A			X	X		
	CS	27	7	Mr.Basil Baby				X		X
	CS	28	8	Mrs.Ritty Jacob		X			X	
	CS	29	9	Mrs.Neenu Daniel	X	X		X		
	CS	30	10	Mr.Andrews Jose		X		X		X
		31	11	Mrs. Sabitha Raju		X		X		X
		32	12	Mrs. Rini Simon	X		X	X		
	CS	33	13	Mrs.Arsha J K			X	X		X
	CS	34	14	Mrs.Dona Jose	X	X			X	
	CS	35	15	Mr.Joe Mathew Jacob	X			X		X
		36	16	Mrs. Bency Cleetus	X	X			X	
	CS	37	17	Mrs.Remya Paul			X	X		X
	CS	38	18	Mr.Sivadas T Nair	X	X			X	
	CS	39	19	Mrs.Alphonsa Kuriakose	X		X	X		
	CS	40	20	Mrs.Nimmy George		X			X	X
ELECTRICAL AND ELECTRONICS ENGINEERING(EEE)	EEE	41	1	Dr. Sony Kurian		X			X	X
	EEE	42	2	Mrs. Cini K			X		X	
	EEE	43	3	Mrs. Seethamma George		X		X		
		44	4	Mr.Aneesh Kurian			X		X	
	EEE	45	5	Mrs. Smitha Jacob				X		X
	EEE	46	6	Mrs. Mereya Baby	X		X		X	
	EEE	47	7	Mr. Dileepkumar P		X		X		X
	EEE	48	8	Mr. Babu T Chacko	X		X		X	
	EEE	49	9	Mr. Sharone Varghese	X	X		X		
	EEE	50	10	Ms. Neena Skaria		X		X		X

**VISWAJYOTHI COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**

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EEE	51	11	Mrs. Jane Maria S			X	X	X
	52	12	Ms. Neena Alex	X		X	X	
ELECTRONICS AND COMMUNICATION ENGINEERING (EC)	53	1	Mr.Cyriac M Odackal				X	X
	54	2	Mr.Tony D		X		X	
	55	3	Mr. R Anil Kumar			X	X	
	56	4	Ms. Lekshmi M S		X		X	
	57	5	Mrs. Anitta Thomas			X		X
	58	6	Mrs.Ranjini Surendren		X		X	
	59	7	Mrs. Niji Mathews			X	X	
	60	8	Mrs. Rose Maria Jose		X		X	
	61	9	Mrs. Merlin Thomas	X			X	
	62	10	Mrs. V K Vanitha Rugmoni	X			X	X
	63	11	Mrs.Anu Rani Philip	X	X		X	
	64	12	Mrs. Cuckoo Anita Joseph	X		X	X	
	65	13	Mrs.Sani john	X	X		X	
	66	14	Mr. Manu Jose			X	X	X
	67	15	Mrs.Manju Thomas T	X	X		X	
	68	16	Mr. Krishnendu K			X	X	X
	69	17	Mrs.Rose Mary Kuruvithadam	X	X		X	
	70	18	Mrs.Femy John			X	X	X
	71	19	Mr Anish M Jose	X	X		X	
	72	20	Mrs. Minu George			X	X	X
	73	21	Mrs.Mary Nirmala George	X	X		X	
	74	22	Mr. Jibby Peter D'cruz			X	X	X
	75	23	Mrs. Anu C Kunjachan	X	X		X	



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INFORMATION TECHNOLOGY (IT)	IT	76	1	Mrs.Jesline Joseph		X			X	
	IT	77	2	Ms.Juliet A Murali			X		X	
	IT	78	3	Mrs.Tiny Molly V			X	X		
	IT	79	4	Mr.Prince Kurian			X			X
	IT	80	5	Mrs.Salini Dev P.V	X		X		X	
	IT	81	6	Mr.Santhanu P Mohan		X		X		X
	IT	82	7	Mrs. Diana Baby	X				X	X
	IT	83	8	Dr.Sheela V.K.	X	X				X
MECHANICAL ENGINEERING (ME)	ME	84	1	Dr. K Shunmugesh		X			X	
	ME	85	2	Tijo Jose	X	X				
	ME	86	3	Arun K			X		X	
	ME	87	4	Ajo Issac John		X		X		
	ME	88	5	Eldhose Paul			X		X	
	ME	89	6	Abraham Antony		X		X		X
	ME	90	7	Eldhose Kurian	X		X	X		
	ME	91	8	Frenosh K Francis	X			X	X	
	ME	92	9	Lovin Varghese		X		X		X
	ME	93	10	Mr. Jerry Varghese	X		X		X	
	ME	94	11	Arun K R	X	X	X			
	ME	95	12	Arun Raphael	X		X		X	
	ME	96	13	Nibin B			X	X		X
	ME	97	14	Abin Paul	X	X			X	
	ME	98	15	Mr. Nidheesh K	X		X	X		
	ME	99	16	Basil Baby		X		X		X
	ME	100	17	Mr. Akash Paul Savio						X

**VISWAJYOTHI COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**

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	<b>ME</b>	<b>101</b>	18	Mr.Martin Jose			X	X		X
<b>S&amp;H</b>	<b>SH</b>	<b>102</b>	1	Mrs. Viji George	X				X	
	<b>SH</b>	<b>103</b>	2	Mrs. Anila Elizabeth John		X		X		
	<b>SH</b>	<b>104</b>	3	Mrs. Rose Mary Baby	X				X	
	<b>SH</b>	<b>105</b>	4	Mrs. Jinta Jose	X				X	
	<b>SH</b>	<b>106</b>	5	Mrs.Manu Sebastian	X	X		X		
	<b>SH</b>	<b>107</b>	6	Mr. Biju George		X		X		X
	<b>SH</b>	<b>108</b>	7	Mr. Robin K Augustine	X	X			X	
	<b>SH</b>	<b>109</b>	8	Mrs. Dany Sebastian	X			X	X	
	<b>SH</b>	<b>110</b>	9	Mrs.Anitha Rajan		X		X	X	
	<b>SH</b>	<b>111</b>	10	Ms. Saksy Joy	X		X		X	


**VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY, VAZHAKULAM**  
**DEPARTMENT OF MECHANICAL ENGINEERING**  
**S1 ME (2018-2022 A-Batch) STATEMENT OF MARKS, SECOND INTERNAL TEST, SEPTEMBER 2018**

Roll No	Name	Subjects						Total (340)	% Mark	Rank	No. of Subjects Failed	Day Scholar/Hosteller
		Calculus (60)	Engg Physics (60)	Engg Graphics (40)	Introduction Mechanical Engg Sciences (60)	Introduction Sustainable Engg (60)	Basic Electronics Engg (60)					
1	ABHIJITH SHIBU	9	36	32	30	27	21	155	45.6	41	2	D
2	ABIL JUSTIN	42	46	39	47	45	40	259	76.2	9	0	D
3	AKASH THOMAS	28	49	27	36	38	17	195	57.4	29	1	H
4	ALBERT DENNIS	29	32	26	34	40	24	185	54.4	33	1	D
5	ALBIN ROY	50	51	35	36	34	40	246	72.4	12	0	D
6	AMAL CHACKO	51	54	36	30	37	34	242	71.2	14	0	H
7	AMAL SATHYAN	27	42	22	30	37	31	189	55.6	31	0	D
8	AMAN SHINE	47	48	29	31	34	28	217	63.8	21	0	D
9	APARNA J	27	35	34	25	43	24	188	55.3	32	2	H
10	ARUN KRISHNA V	55	53	24	31	48	37	248	72.9	10	0	D
11	ATHUL P U	38	32	39	43	44	21	217	63.8	21	1	D
12	BASIL JOY	33	53	33	36	46	23	224	65.9	20	1	D
13	BASIL MATHEW ABRAHAM	15	40	35	30	44	21	185	54.4	33	2	D
14	BASIL SHAJI	23	42	37	37	41	25	205	60.3	24	2	D
15	BASIL VARGHESE M	27	42	29	32	42	27	199	58.5	26	0	D
16	CYRIAC JACOB	44	56	33	45	16	35	229	67.4	17	1	D
17	DEVANARAYANAN S	25	51	39	18	32	15	180	52.9	37	3	D
18	DEYON WILSON	12	37	0	20	28	11	108	31.8	44	4	D
19	GEORGE JOVAN	22	43	29	34	39	30	197	57.9	28	1	D
20	GEORGE MATHEW	41	49	31	34	36	34	225	66.2	19	0	D
21	GEORGEKUTTY JOSEPH	30	26	38	24	42	38	198	58.2	27	2	D
22	GEORGEY EMMANUEL BASTIAN	52	58	38	49	49	43	289	85.0	5	0	D
23	GOODWIN MARTIN	27	35	32	34	33	19	180	52.9	37	1	D
24	HARIGOVIND S	60	59	40	57	46	52	314	92.4	1	0	D
25	HARIKRISHNAN M G	4	30	24	15	9	8	90	26.5	46	4	D
26	JISMON V J	52	53	36	54	34	45	274	80.6	8	0	H
27	JOEL SABU	31	17	31	25	40	27	171	50.3	40	2	D
28	JOHNS T SOMY	56	57	38	54	45	38	288	84.7	6	0	D
29	JOYAL JOHNSON	47	48	29	42	42	26	234	68.8	16	1	D
30	KARUN DAS SHIBU	38	51	37	37	45	40	248	72.9	10	0	H
31	M HARISANKAR	27	41	38	37	43	51	237	69.7	15	0	D
32	MANU ANTONY	21	36	31	35	42	30	195	57.4	29	1	D
33	MATHEW MATHEW GEORGE	54	56	34	60	44	48	296	87.1	3	0	H
34	MILEN MAXY PATTARUMADATHIL	54	60	38	54	44	41	291	85.6	4	0	H
35	MUHAMMED SHAHAL M	9	45	35	30	45	18	182	53.5	36	2	H
36	NIGEL MATHEW	A	A	20	30	25	23	98	28.8	45	2	D
37	NIMITHA JOHNY	45	57	39	55	42	40	278	81.8	7	0	H
38	PAUL BABY	27	36	32	32	25	26	178	52.4	39	2	D
39	PETER K GEORGE	31	28	30	33	30	32	184	54.1	35	0	D
40	PRIYANA SUNNY K	37	51	36	45	39	35	243	71.5	13	0	H
41	S ABHINAV BASIL	35	49	0	49	40	38	211	62.1	23	1	H
42	SHON WILSON	41	35	28	32	30	37	203	59.7	25	0	D
43	SNOBIN MATHEW	59	56	35	59	44	56	309	90.9	2	0	D
44	TOM THOMAS	36	41	29	49	43	30	228	67.1	18	0	D
45	VARGHESE MATHEW	22	33	7	27	35	10	134	39.4	42	3	D
46	VISHNU T P	27	26	10	15	30	13	121	35.6	43	4	D
AVERAGE		34.8	43.9	30.3	36.8	37.8	30.5	No. of all pass			22	
MAXIMUM MARKS		60	60	40	60	49	56					
MINIMUM MARKS		4	17	0	15	9	8					
NO OF STUDENTS FAIL		10	3	4	7	4	18	Overall Pass (%)			47.83	
		78.26	93.48	91.30	84.78	91.30	60.87					

*[Signature]*  
 9/11/18  
 Basil Baby  
 GROUP TUTOR


*[Signature]*  
 9/11/18  
 HOD, MED





**Viswajyothi College of Engineering and Technology**

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**Viswajyothi College of Engineering and Technology, Vazhakulam P.O**  
**Internal Marklist Assessmentwise**  
**Class : S5-ME A**

Sl No	Name	Computer Programming & Numerical Methods				Electrical and Electronics Lab		Non Destructive Testing				Design Project	Nuclear Engineering			
		ME305				EE335		ME367				ME341	ME371			
		Mary Nirmala George				Sharone Varghese		Arun K.				Basil Baby	Martin Jose			
		Assignment 1	Assignment 2	Series Exam 1	Series Exam 2	Lab Performance 1	Model Lab 1	Assignment 1	Assignment 2	Series Exam 1	Series Exam 2	Project Work 1	Assignment 1	Assignment 2	Series Exam 1	Series Exam 2
	Max. Marks	10	10	30	30	70	30	10	10	30	30	100	10	10	30	30
1	ABHIJITH SHIBU	10	10	15	24	64	24	10	9	20	27	86				
2	ABIL JUSTIN	10	10	23	26	63	24	10	10	26	27	91				
3	AKASH THOMAS	10	10	14	28	63	25					81	10	10	22	23
4	ALBERT DENNY	10	10	17	21	59	24	10	9	26	27	87				
5	ALBIN ROY	10	10	26	23	63	25	9	10	23	27	91				
6	AMAL CHACKO	10	10	16	22	63	26	10	9	27	27	88				
7	AMAL SATHYAN	10	10	15	21	63	24	9	10	26	26	90				

Screenshot of VJCET Portal



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## 6. ATTAINMENT SHEET

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**KTU - COURSE OUTCOME ATTAINMENT SHEET - THEORY**  
**SWAJYOTHI COLLEGE OF ENGINEERING AND TECHNOLOGY, VAZHAKULAM**

Branch	Computer Science & Eng	Subject	Graph Theory and Combinatorics
Semester	V	Course code	C305
Batch	A	No: of COs	6
No: of students	57	Faculty Name	RESMI CHERIAN

Assessment Tool	CT1	CT2	CT3	Asst 1	Asst 2				
Date of Assessment	23-09-17	24-10-17	11/11/17	19-8-17	17-11-17				
No: of Questions	13	6	6	5	4				
Max Marks	60	30	30	10	10				

Roll No	Name	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT1	CT2	CT2	CT2	CT2
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q1	Q2	Q3	Q4
		C305.1	C305.1	C305.1	C305.1	C305.2	C305.1	C305.1	C305.2	C305.1	C305.1	C305.2	C305.2	C305.2	C305.3	C305.3	C305.3	C305.3
		Analysi	Analysi	applicati	Analysi	Analysi	applicati	preher	Analysi	Analysi	Analysi	Analysi	Analysi	applicati	Analysi	applicati	knowled	applicati
		3	3	3	3	3	3	3	3	9	9	9	9	9	3	3	3	3
1	ABHIJITH C S	1.0	3.0	2	0	0	1.5	3	0.5		2	1.5		7.5	1.5	3	3	
2	ABHIJITH SONY PUTHEN	.5	3.0	3	3			2.5			7				1.5	0	3	
3	ABHILASH K S	3.0	3.0	2	3	1	2.5	3		1.5	9		2		1.5	0	3	
4	ABIL VARKICHAN JOSE	3.0	3.0	2.5	3	2	2	2.5	1.5	4.5	8.5		1.5	5				
5	ADHARSH SABU	3.0	3.0	1.5	3		1.5	2	0.5	0.5	0	0	4					

CO ATTAINMENT						
	C305.1	C305.2	C305.3	C305.4	C305.5	C305.6
CT1	3	1	-	-	-	-
CT2	-	-	3	-	-	-
CT3	-	-	-	3	-	-
Asst 1	3	3	-	-	-	-
Asst 2	-	-	-	-	3	3

Screenshot of Sample Attainment Sheet



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## **7. SOFTWARE TRAINING (OBE IMPLEMENTATION) AT VARIOUS COLLEGES**





**Training at MBCET (15-02-2020)**



**Training session during FDP on "NBA Accreditation" at Al-Azhar College of engineering (23-01-2021)**