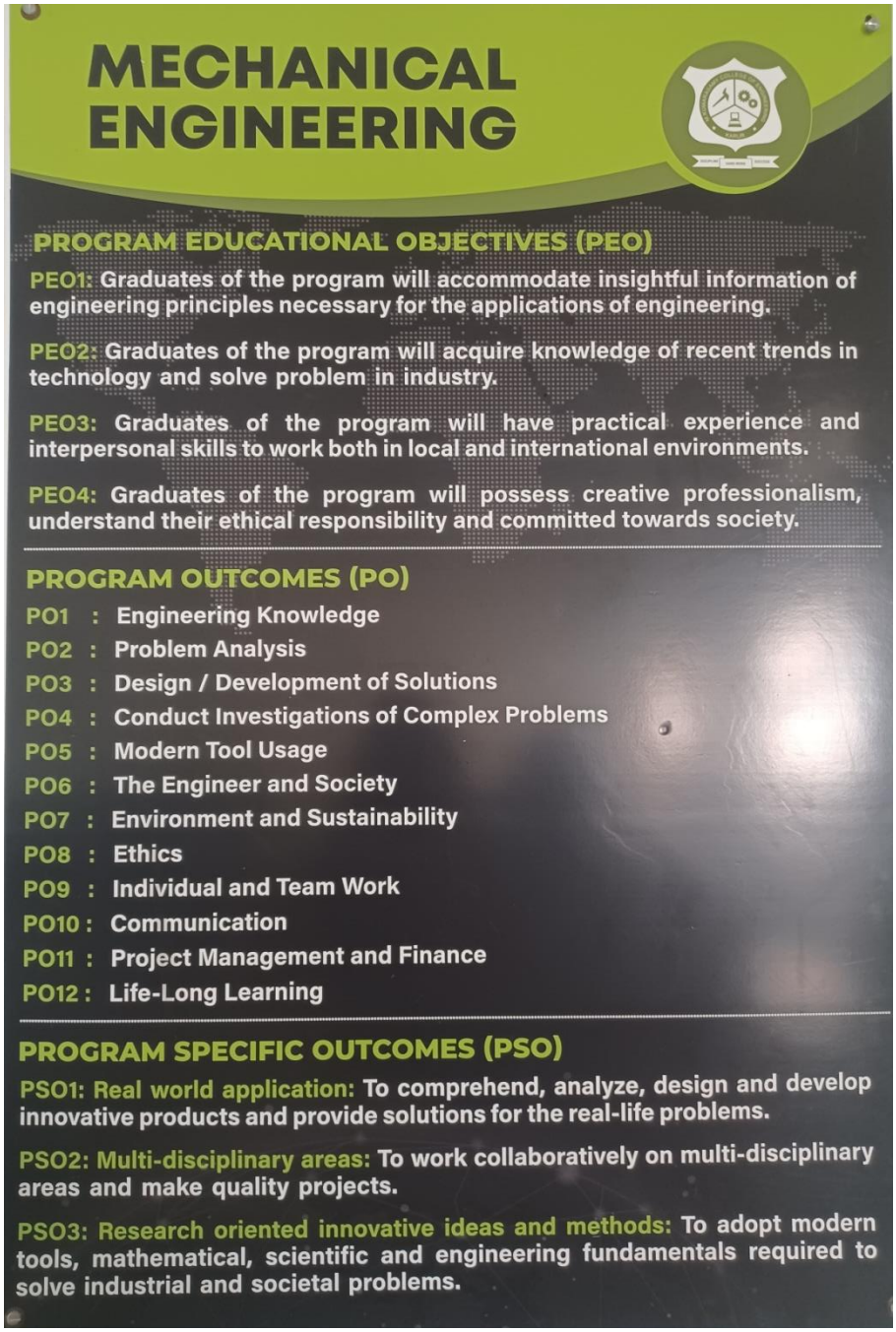
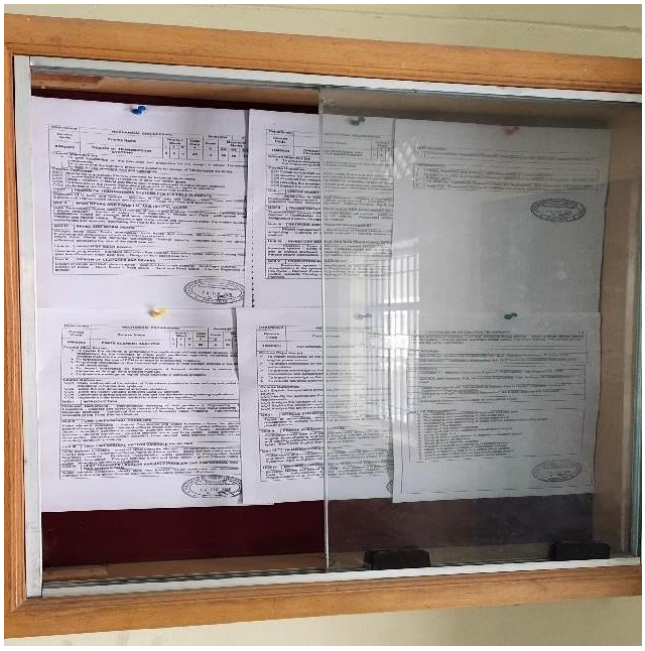
DEPARTMENT BOARD



STAFF ROOM NOTICE BOARD

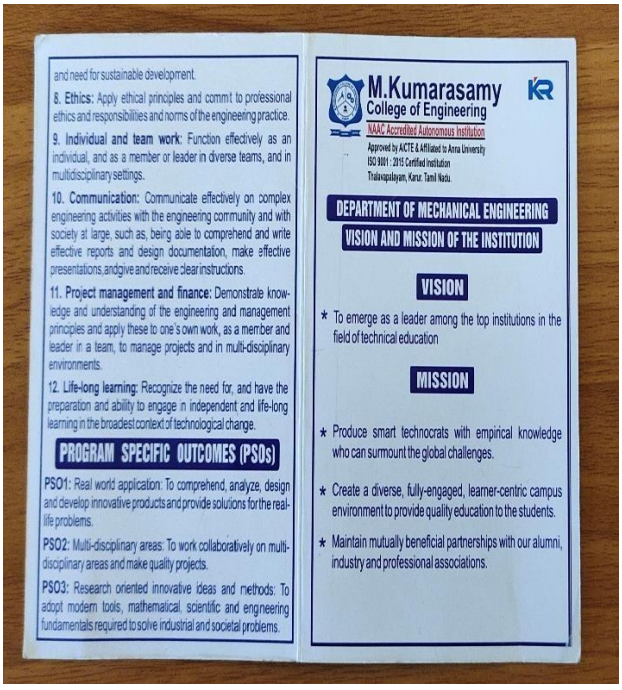
CLASS ROOM

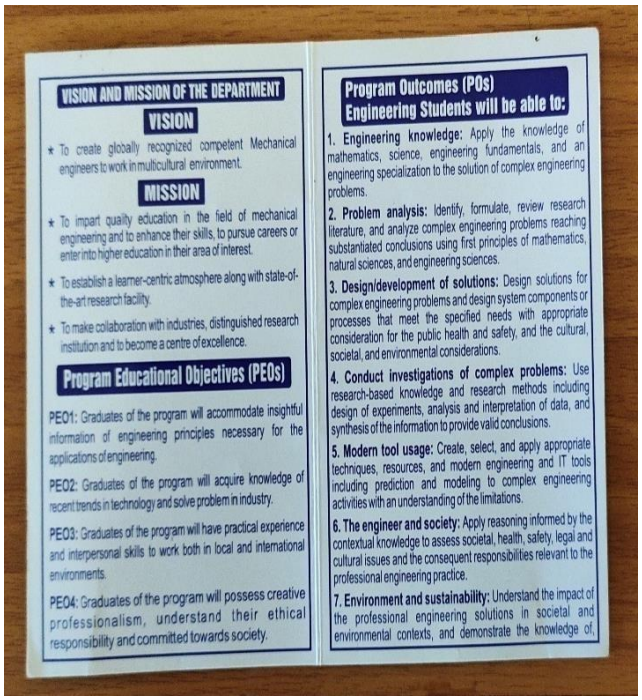
CLASS ROOM NOTICE BOARD



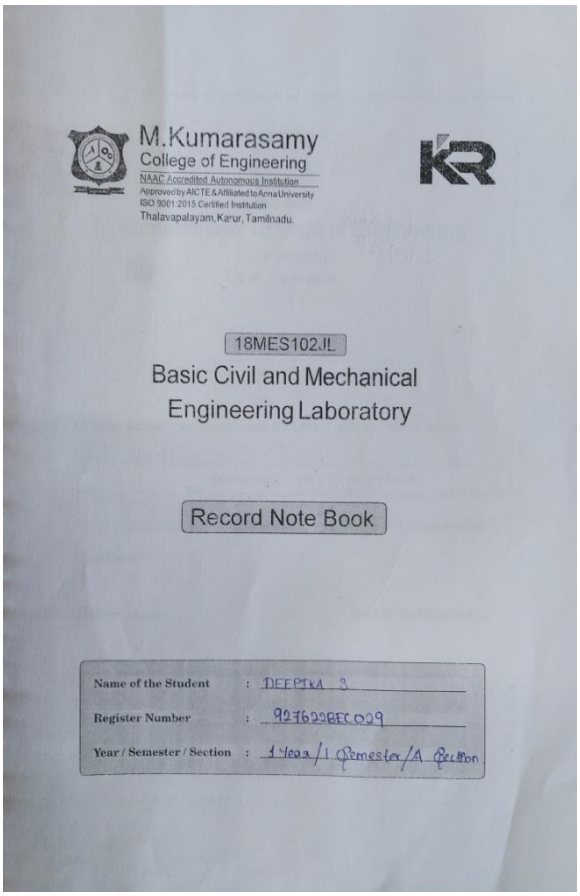
LABORATORY NOTICE BOARD

HAND OUT





STUDENTS RECORD NOTE



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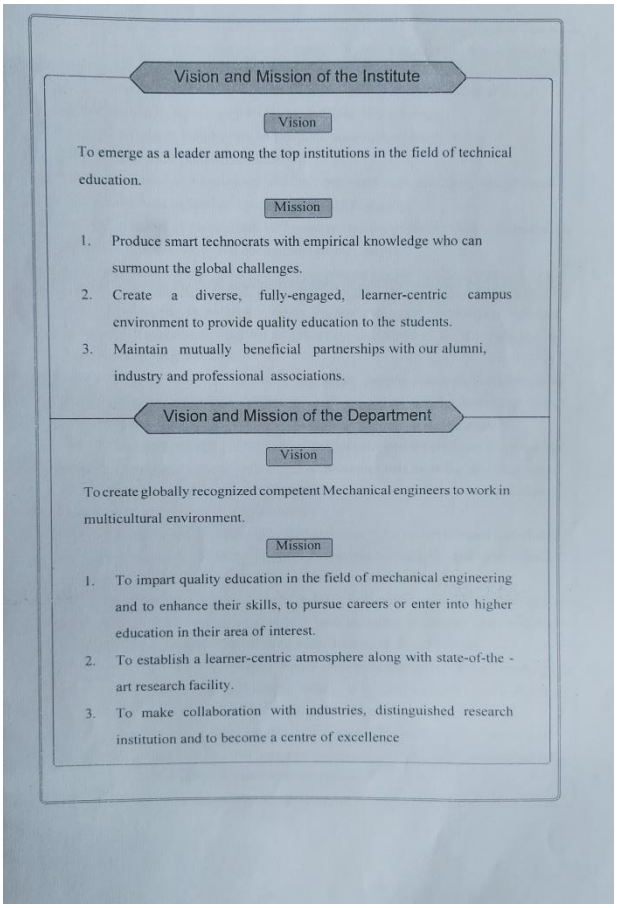
18MES102J/L

Basic Civil and Mechanical Engineering Laboratory

Record Note Book

Name of the Student : DEEPIKA S
Register Number : 927622BEC029
Year / Semester / Section : 1 Year / 1 Semester / A Section



Vision and Mission of the Institute

Vision

To emerge as a leader among the top institutions in the field of technical education.

Mission

1. Produce smart technocrats with empirical knowledge who can surmount the global challenges.
2. Create a diverse, fully-engaged, learner-centric campus environment to provide quality education to the students.
3. Maintain mutually beneficial partnerships with our alumni, industry and professional associations.

Vision and Mission of the Department

Vision

To create globally recognized competent Mechanical engineers to work in multicultural environment.

Mission

1. To impart quality education in the field of mechanical engineering and to enhance their skills, to pursue careers or enter into higher education in their area of interest.
2. To establish a learner-centric atmosphere along with state-of-the - art research facility.
3. To make collaboration with industries, distinguished research institution and to become a centre of excellence

Program Educational Objectives (PEOs)

PEO1 : Graduates of the program will accommodate insightful information of engineering principles necessary for the applications of engineering.

PEO 2 : Graduates of the program will acquire knowledge of recent trends in technology and solve problem in industry.

PEO 3 : Graduates of the program will have practical experience and interpersonal skills to work both in local and international environments.

PEO 4 : Graduates of the program will possess creative professionalism, understand their ethical responsibility and committed towards society.

Program Outcomes (POs)

PO 1 : Engineering knowledge : Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 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.

PO 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.

PO 4 : Gonduct 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.

PO 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.

PO 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.

PO 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.

PO 8 : Ethics : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9 : Individual and team work : Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10 : Gommunication : 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.

PO 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.

PO 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 Specific Outcomes (PSOs)

PSO1 : Real world application : To comprehend, analyze, design and develop innovative products and provide solutions for the real-life problems.

PSO2 : Multi-disciplinary areas : To work collaboratively on multi-disciplinary areas and make quality projects.

PSO3 Research oriented innovative ideas and methods : To adopt modern tools, mathematical, scientific and engineering fundamentals required to solve industrial and societal problems.

Mechatronics Laboratory

Mapping of course outcomes with program outcomes and program specific outcomes

CO Vs PO

Subject	Mechatronics Lab														
Course Coutcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Identify the function of pneumatic system															
Demonistatrate the stepper motor using Micro controller															
Design a circuit in Labview software															
Constract the pneumatic components using Automation studio															
Identify the controller in Multi process station															

COLLEGE WEBSITE

Department of Mechanical Engineering

Program Educational Objectives(PEO)

* Graduates of the program will accommodate insightful information of engineering principles necessary for the applications of engineering.

* Graduates of the program will acquire knowledge of recent trends in technology and solve problem in industry.

* Graduates of the program will have practical experience and interpersonal skills to work both in local and international environments.

* Graduates of the program will possess creative professionalism, understand their ethical responsibility and committed towards society.

Program Outcomes(PO)

The following are the Program Outcomes of Engineering Graduates: Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

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.

Design/development of solutions: Design solutions for complex engineering problems and design system

DEPARTMENT OF INFORMATION TECHNOLOGY

Knowledge Dissemination Of COs And POs To Students

1.In each courses, Cos are mentioned.

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Regulation 2018		Semester IV	Total Hours			60
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
C	18ITC207J	Database Management Systems	3	0	2	4

Prerequisite Course (s)

Nil

Course Objective (s):

The purpose of learning this course is to:

1	Introduce Database concepts and models
2	Access the Relational Database using SQL queries
3	Understand Transaction processing and concurrency control

Course Outcome (s) (COs):

At the end of this course, learners will be able to:

CO1	Differentiate Database systems from file systems
CO2	Construct queries to manipulate data in Database
CO3	Illustrate the conditions of Normal forms
CO4	Interpret the issues of Transaction Processing
CO5	Demonstrate an understanding of Storage and Recovery

CO-PO Mapping

COs	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2		2										2		
CO2	3	2	3		2				2			2	1	2	
CO3	2	2	3										2	1	
CO4	2		3	2									1		
CO5	3		2					2					3		1
CO (Avg)	2.4	2	2.6	2	2			2	2			2	1.8	1.5	1

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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2. COs and POs are mentioned in the course file for each courses.

M.KUMARASAMY COLLEGE OF ENGINEERING (Autonomous) – KARUR 639113

Department	INFORMATION TECHNOLOGY					R 2016	Semester	IV
Course Code	Course Name	Hours / Week			Credit	Total Hours	Maximum Marks	
		L	T	P	C			
16IT401	DATABASE MANAGEMENT SYSTEMS	3	0	0	3	45	100	

Course Objective (s):

- To learn the concepts of Relational Database design and query languages

Course Outcomes:

1. To know fundamental concepts of data models, ER diagrams and normalization of relations.
2. To illustrate the usage of SQL commands and provide the proof for good database design.
3. To explain the fundamental concepts of transaction processing, concurrency control and recovery techniques.

Unit I	INTRODUCTION	9

Data-The Evolution of Database Systems and DBMS - Overview of a Database Management System – Purpose of Database System – Views of data – Data Models – Database Languages – Database System Architecture – Data Models – Entity Relationship model – ER Model: Objects-Attributes and its type-Entity and Relationship-Design issues of ER model-Constraints.

Unit II	RELATIONAL MODEL AND SQL	9

Relational model-Concepts-Keys –Tabular representation of various ER schema-Overview of query processing-Relational Algebra –Basic operations-SQL overview-The form of Basic SQL Query-Nested queries-Correlated and Aggregate functions-Integrity constraints in SQL-Embedded SQL.

Unit III	FUNCTIONAL DEPENDENCIES AND NORMAL FORMS	9

Importance of a good schema design-Problems encountered with bad schema design-functional dependencies-Motivation for normal forms-Normalization (INF, 2NF, 3NF, BCNF)-Join dependencies-Multivalued dependencies (4NF, 5NF)

Unit IV	TRANSACTION MANAGEMENT	9

Introduction to Transactions - ACID Properties - Serializability and Recoverability-View Serializability –Conflict serializability-Need for Concurrency control- Locking Protocols - Two Phase locking mechanism- Concurrency Control Techniques.

Unit V	STORAGE AND RECOVERY	9

Overview of primary and secondary storage media-File organization-RAID-Deadlock management-Prevention-Detection-Recovery-Types of failures-Undo, Redo Techniques-Log based Recovery-Shadow paging Techniques-ARIES Recovery algorithm.

TEXT BOOK(S):

1.	Abraham Silberschatz, Henry F. Korth, S. Sudharshan, "Database System Concepts", Sixth Edition, Tata McGraw Hill, 2010.
2	Ian Sommerville, Software Engineering, 8th Edition, Pearson Education, 2008.

REFERENCE(S):

1.	Gupta G K, "Database Management Systems", Tata McGraw Hill Education Private Limited, New Delhi, 2011.
2	Ramez Elmasri, Shamkant B. Navathe, "Fundamentals of Database Systems", Sixth Edition, Pearson / Addision Wesley, 2010.
3	Raghu Ramakrishnan, Johannes Gehrke "Database Management Systems", Third Edition, McGrawHill, 2007.
4	Date C.J, An Introduction to Database, Addison-Wesley Pub Co, 8thEdition, 2006.
5	http://nptel.ac.in/courses/106106093

Approved by Board of Information Technology on 11.03.17

3. In the question papers, the CO of the concerned units is specified.

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KR

Reg. No. : | | | | | | | | | | | | |

B.E/B.TECH -PREPARATORY EXAMINATIONS, April 2019

Fourth Semester

Information Technology

16IT401 -DATABASE MANAGEMENT SYSTEMS

Time : Three Hours Maximum : 100 Marks

DATE : 11-04-2019 TIME : 09.30 AM to 12.30 PM

Answer ALL questions

PART A - (10x2=20 Marks)

1.	CO1	Define entity?	K1
2.	CO1	Define mapping cardinality, and how it is represented?	K2
3.	CO2	Compare DDL and DML.	K2
4.	CO2	What is embedded SQL	K1
5.	CO3	What are axioms?	K1
6.	CO3	Consider a relation scheme R = (A, B, C, D, E, H) on which the following functional dependencies hold: {A->B, BC->D, E->C, D->A}. List the candidate keys of R? AEH, BEH, DEH	K2
7.	CO4	Compare conflict and view serializability.	K2
8.	CO4	What is two phase locking protocol?	K1
9.	CO5	Differentiate Primary and secondary storage.	K1
10.	CO5	Mention the advantages of ARIES Recovery Algorithm.	K1

PART B-(5 x 16 = 80 Marks)

11. (a)	CO1	For what purpose Data base manipulation languages are used illustrate with an example	K2	(16)

(OR)

11. (b)	CO1	Illustrate about Entity types, Entity sets, Attributes, relationship and its types?	K2	(16)

12. (a)	CO2	What is Join operation? Explain the types of joins in SQL with example.	K2	(16)

(OR)

12. (b)	CO2	Draw the Query Processing architecture. Outline the steps involved in query processing.	K2	(16)

13. (a)	CO3	Consider the relation schema R = {E, F, G, H, I, J, K, L, M, M} and the set of functional dependencies {{E, F} -> {G}, {F} -> {I, J}, {E, H} -> {K, L}, K -> {M}, L -> {N} on R. Identify the key of R. Illustrate the Normal form of the above relation R. EFH. INF	K3	(16)

(OR)

13. (b)	CO3	Define Functional Dependency. List and discuss the six inference rules for functional dependencies. Give relevant example.	K2	(16)

14. (a)	CO4	Explain in detail about Concurrency control technique with an example.	K2	(16)

(OR)

14. (b)	CO4	Explain in detail about two-phase locking protocol with example.	K2	(16)

15. (a)	CO5	Explain in detail about log based recovery technique with an example.	K2	(16)

(OR)

15. (b)	CO5	List the different RAID levels and explain in detail with a neat sketch.	K2	(16)

Verified By

Approved By

Course Outcome	CO1 - Differentiate Database Systems from file Systems and model a Database. CO2 - Manipulate Data in DB using SQL CO3 - Demonstrate an understanding of Normalization CO4 - Interpret the issues of Transaction Processing CO5 - Demonstrate an understanding of storage and Recovery.
Knowledge level (K)	Remember (K1), Understand (K2), Apply (K3), Analysis (K4), Evaluate (K5), Design (K6)

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Register Number:

B.E/B.TECH – PREPARATORY EXAMINATION

FOURTH YEAR / EIGHTH Semester

UIT12859-SOFTWARE PROJECT MANANGEMENT

(Department of Information Technology)

Date & Time: 5.4.19 & 9.30 A.M-12.30 P.M

Maximum: 100 Marks

Part A – (10 x 2 = 20 marks)

Answer All Questions

Q.No	Questions	CO	BL
1.	List the categories of software project.	CO1	K1
2.	What is planning?	CO1	K1
3.	Define process.	CO2	K1
4.	What are the models of COCOMO II?	CO2	K1
5.	State the objectives of activity planning.	CO3	K1
6.	How resource allocation is carried out in a software project?	CO4	K1
7.	What is Contract Management?	CO4	K1
8.	Construct the steps in a project control.	CO4	K2
9.	Infer the importance of virtual teams.	CO5	K2
10.	What is structured decision making?	CO5	K1

PART B - (5 x 16 = 80 marks)

Answer All Questions

11.(a)	CO1	(i)	Explain where the Management activities play a major role in a project scenario.	K2	(8)
		(ii)	Explain the step-wise project planning in detail.	K2	(8)
			(Or)		
(b)	CO1		Explain the various project Management skills.How software project differs from other projects?	K2	(16)
12.(a)	CO2		Explain the spiral model and RAD model with a neat diagram.	K2	(16)
			(Or)		

(b)	CO2	Discuss the Cost Benefit Analysis for a payroll application.	K2
13.(a)	CO3	Explain the Scheduling activities and Network planning model.	K2
		(Or)	
(b)	CO3	Summarize the importance of Risk Management and Risk Analysis in a software project .	K2
14.(a)	CO4	Explain the framework for Management and Control and visualizing techniques which support the monitoring of the project progress.	K2
		(Or)	
(b)	CO4	Mr.Sachin has been recruited as a project manager(client side) for project management in an organization. The project needs to be outsourced to some organization and Mr.Sachin is responsible for placing the contracts under tender process. Help him in conducting contract placement process smoothly by explaining all the stages.	K2
15.(a)	CO5	Explain the different types of organization and team structures for effective functioning of the organization.	K2
		(Or)	
(b)	CO5	Explain the different theories of Motivation in detail.	K2

Course Outcome	CO1-Illustrate the different Software Project Management and Cost Benefit Evaluation Techniques.
	CO2- Infer the different software process models and the staffing patterns supporting software project Management
	CO3-Develop Strategies to calculate the risk factors involved in Projects
	CO4-Use Project Management software to control the design,implementation,closure an evaluation of IT projects.
	CO5-Illustrate the different theories of Motivation and team structures of software proje
Knowledge Level (K)	Remember (**K1**), Understand (**K2**), Apply (**K3**), Analysis (**K4**), Evaluate (**K5**) & Design (**K6**)

Mrs.R.Sujatha
Prepared By

Mr.E.Balraj
Verified By

Dr.G.Mohana Prabha
Approved By

4. CO of Laboratory courses syllabuses are displayed in the concerned laboratory.

M.KUMARASAMY COLLEGE OF ENGINEERING

Regulation 2018		Semester IV	Total Hours			60
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
C	18ITC207J	Database Management Systems	3	0	2	4

Prerequisite Course (s)

Nil

Course Objective (s):

The purpose of learning this course is to:

1	Introduce Database concepts and models
2	Access the Relational Database using SQL queries
3	Understand Transaction processing and concurrency control

Course Outcome (s) (COs):

At the end of this course, learners will be able to:

CO1	Differentiate Database systems from file systems
CO2	Construct queries to manipulate data in Database
CO3	Illustrate the conditions of Normal forms
CO4	Interpret the issues of Transaction Processing
CO5	Demonstrate an understanding of Storage and Recovery

CO-PO Mapping

COs	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2		2										2		
CO2	3	2	3		2				2			2	1	2	
CO3	2	2	3										2	1	
CO4	2		3	2									1		
CO5	3		2					2					3		1
CO (Avg)	2.4	2	2.6	2	2			2	2			2	1.8	1.5	1

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

M.KUMARASAMY COLLEGE OF ENGINEERING

UNIT I	DATABASE SYSTEMS AND ER-MODEL	9

The Evolution of Database Systems and DBMS - Overview of a Database Management System – Views of data – Data Models - Database System Architecture – Data Models – Entity Relationship model – ER Model: Objects-Attributes and its type-Entity and Relationship-Design issues of ER model- Constraints.

UNIT II	RELATIONAL MODEL AND SQL	9

Relational model Concepts - Keys – Tabular representation of various ER schema - Overview of query processing - Relational Algebra – Basic operations - SQL overview - Basic SQL Query - Nested queries - Correlated and Aggregate functions - Integrity constraints in SQL - Embedded SQL

UNIT III	NORMALIZATION	9

Problem encountered with bad schema design - functional dependencies - Decomposition - Motivation for normal forms -Normalization (INF, 2NF, 3NF, BCNF) - Multivalued dependencies (4NF) - Join dependencies (5NF)

UNIT IV	TRANSACTION PROCESSING	9

Introduction to Transactions - ACID Properties – Serializability and Recoverability - Conflict Serializability - Concurrency Control Techniques - Two Phase locking mechanism, Timestamp based protocol – Deadlock Detection and Management

UNIT V	RECOVERY AND STORAGE	9

Types of failures - Undo, Redo Techniques - Log based Recovery - Shadow paging Techniques - ARIES Recovery algorithm - Overview of primary and secondary storage media - File organization – RAID - Data Dictionary Storage

LIST OF EXPERIMENTS	15

1. Data Definition Language (DDL) commands
2. Data Manipulation Language (DML) and Data Control Language (DCL)
3. Constraints and Views
4. Joins and Nested Queries
5. High level language extensions Procedures and Functions
6. High level language extensions with Cursors and Triggers
7. Embedded SQL
8. Study of E-R model and Normalization
9. Database Connectivity Using PHP/Python/Java

Text Book (s)

1	Abraham Silberschatz, Henry Korth, and S. Sudarshan, Database System Concepts, Sixth edition, McGraw-Hill,2011.

5. CO, PO, PSO, & PEO are available in the project reports prepared by the students.

EFFECTIVE SENTENCE RETRIEVAL ALGORITHM FOR QUESTION ANSWERING SYSTEM

A PROJECT REPORT

Submitted by

ANBUSELVI C	**(16BIT3006)**
DIVYAL	**(16BIT3023)**
RANGANAYAKI S	**(16BIT3077)**

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

IN

INFORMATION TECHNOLOGY

M.KUMARASMY COLLEGE OF ENGINEERING, KARUR

ANNA UNIVERSITY : CHENNAI 600025

MAY 2020

DEPARTMENT OF INFORMATION TECHNOLOGY

VISION

To become a globally recognized centre of excellence in the field of Information Technology, providing technology excellence that advances learning, teaching, research to produce budding IT professionals, researchers, innovators and entrepreneurs.

MISSION

- To produce competent IT professionals with the potential of Programming and Problem solving skills.
- To facilitate the students to work with modern tools, inventive technologies and innovative research capabilities.
- To build leadership abilities by inculcating the spirit of ethical values

Programme Educational Objectives (PEOs):

PEO1: Graduates will be able to solve real world problems using learned concepts Pertaining to Information Technology domain.

PEO2: Encompass the ability to examine, plan and build innovative software products and become a successful entrepreneur.

PEO3: Graduates will be able to carry out the profession with ethics, integrity, leadership and social responsibility.

PEO4: Graduates will be able to pursue post-graduation and succeed in academic and research careers.

PROGRAM OUTCOMES

The following are the Program Outcomes of Engineering Graduates:

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 in formed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
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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.
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12. **Life-longlearning:**Recognizetheneedfor,andhavethepreparationandabilitytoengagein

independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

The following are the Program Specific Outcomes of Engineering Graduates:

The students will demonstrate the abilities

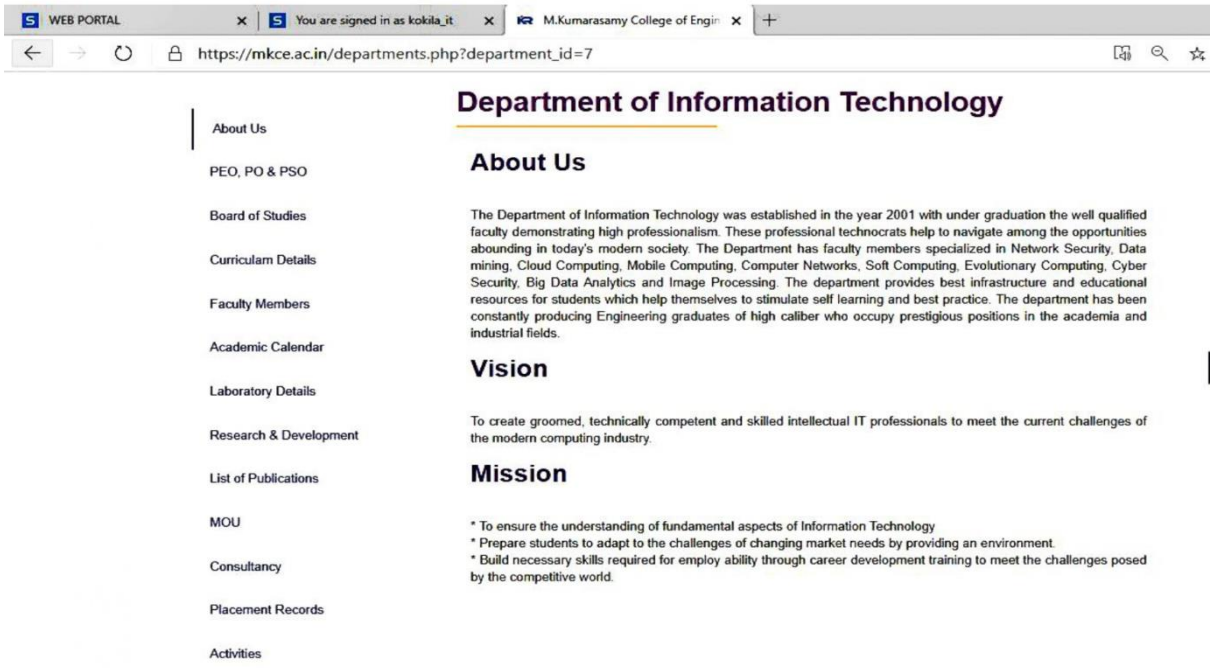
1. **Real world application:** To comprehend, analyze, design and develop innovative products and provide solutions for the real-life problems.
2. **Multi-disciplinary areas:** To work collaboratively on multi-disciplinary areas and make quality projects.
3. **Research oriented innovative ideas and methods:** To adopt modern tools, mathematical, scientific and engineering fundamentals required to solve industrial and societal problems.

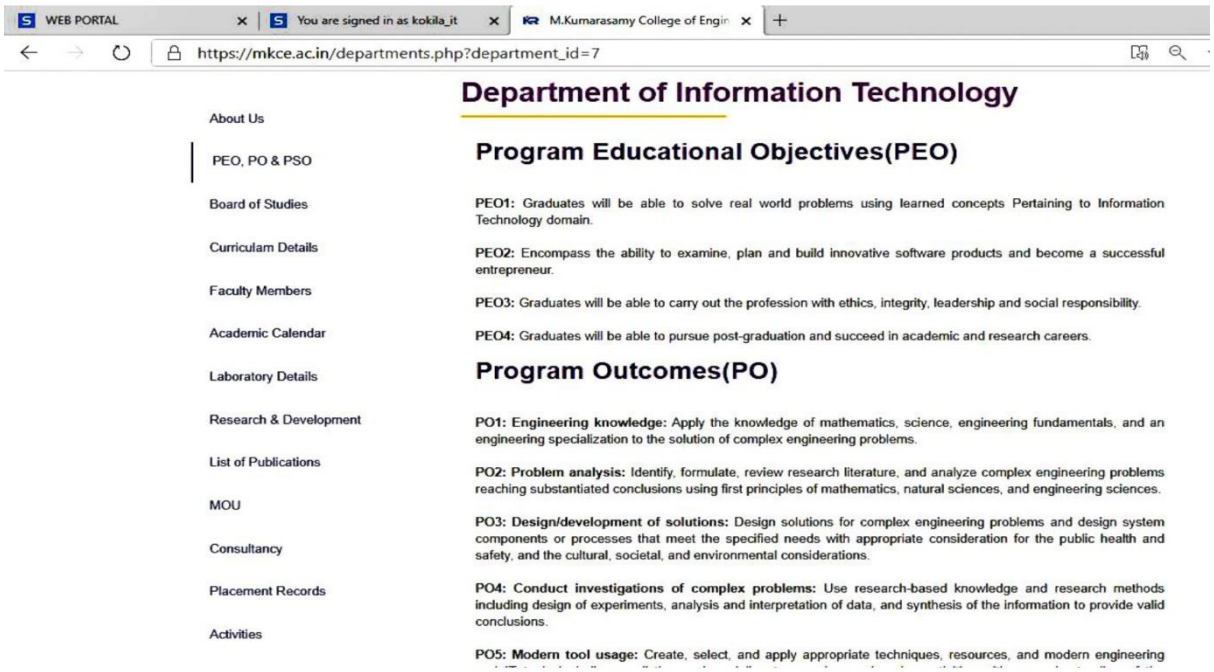
CO-PO MAPPING

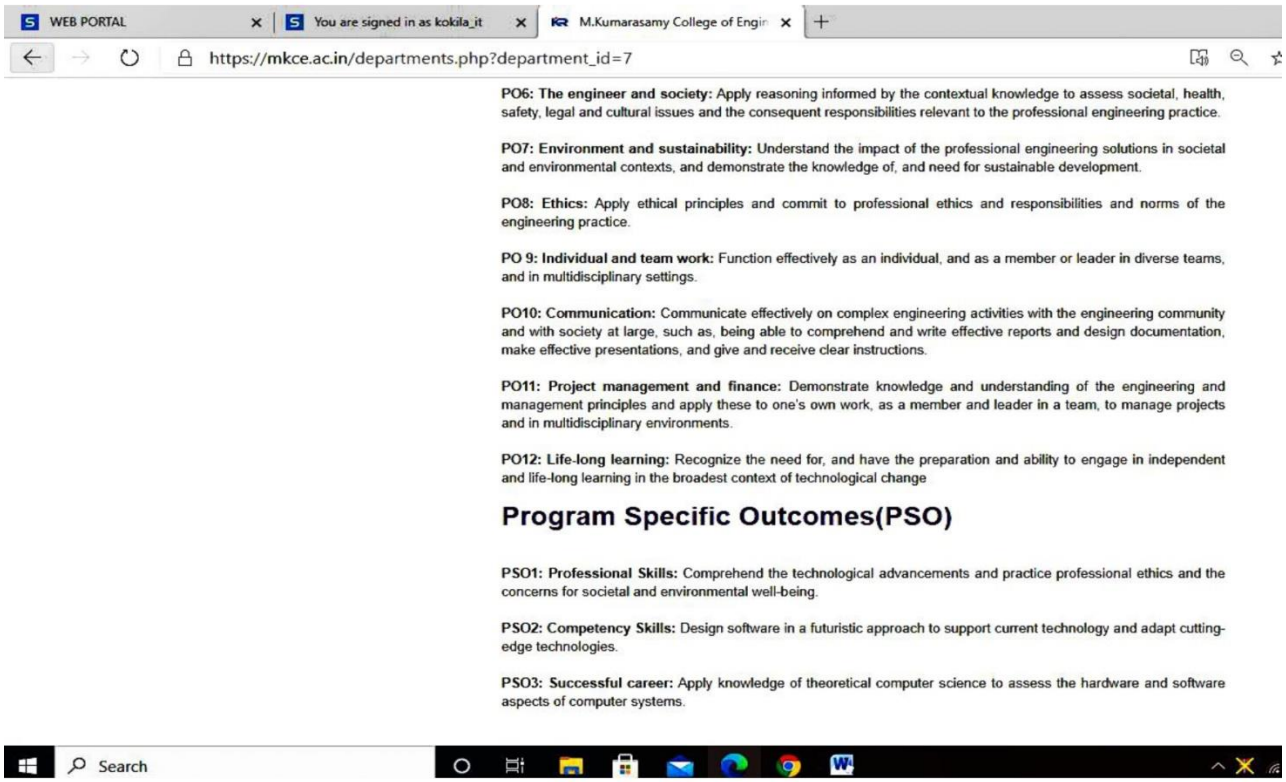
COs	Pos												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	-	3	-	2	2	-	3	3	2	3	3	2	3
CO2	3	3	-	3	-	2	2	-	3	3	2	3	3	2	3
CO3	3	3	-	3	3	-	3	-	3	3	2	3	3	-	2
CO4	3	3	-	2	-	-	2	-	3	3	2	3	3	-	2
CO5	3	3	-	2	-	-		3	3	3		3	3	-	2
CO (Avg)	3	3	-	2.6	3	2	2.25	3	3	3	2	3	3	2	2.4

1:Slight (Low) **2:Moderate(Medium)** **3: Substantial(High)**

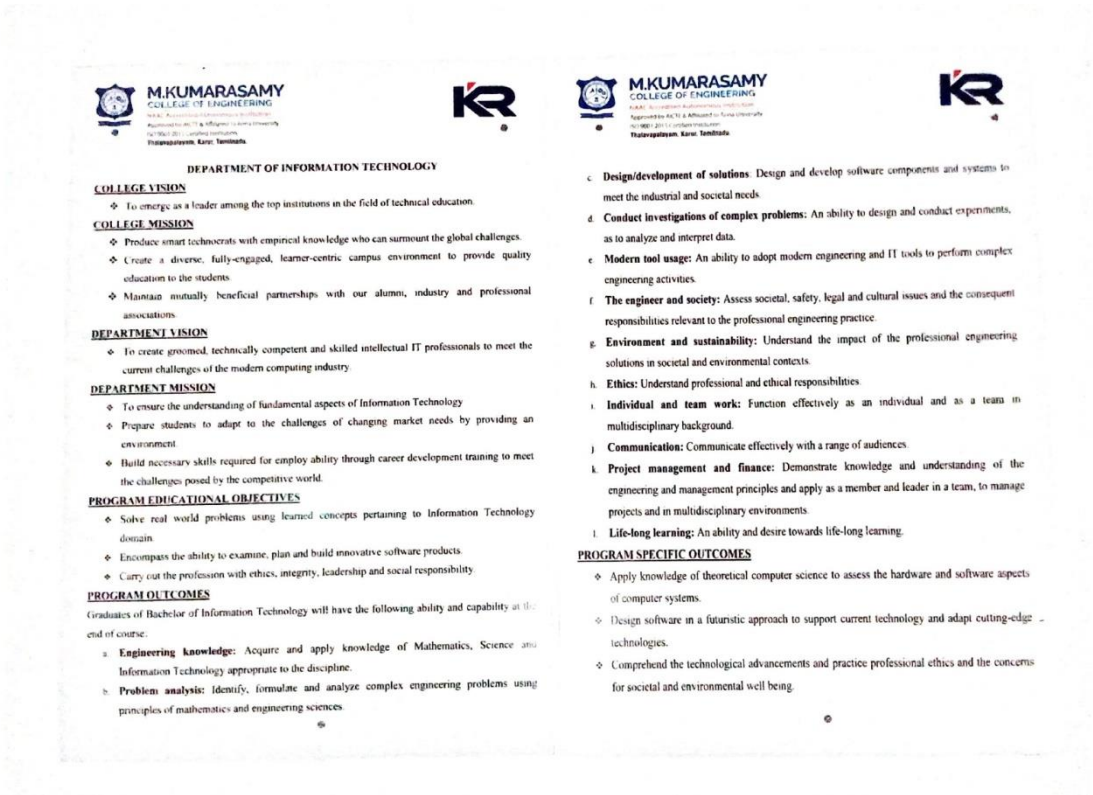
6. In our college Website PO, PSO and PEO are displayed for the reference of the students.







7. **In front of the department PO, PSO & PEO are displayed.**



M.KUMARASAMY COLLEGE OF ENGINEERING

DEPARTMENT OF INFORMATION TECHNOLOGY

COLLEGE VISION

- To emerge as a leader among the top institutions in the field of technical education.

COLLEGE MISSION

- Produce smart technocrats with empirical knowledge who can surmount the global challenges.
- Create a diverse, fully-engaged, learner-centric campus environment to provide quality education to the students.
- Maintain mutually beneficial partnerships with our alumni, industry and professional associations.

DEPARTMENT VISION

- To create groomed, technically competent and skilled intellectual IT professionals to meet the current challenges of the modern computing industry.

DEPARTMENT MISSION

- To ensure the understanding of fundamental aspects of Information Technology.
- Prepare students to adapt to the challenges of changing market needs by providing an environment.
- Build necessary skills required for employ ability through career development training to meet the challenges posed by the competitive world.

PROGRAM EDUCATIONAL OBJECTIVES

- Solve real world problems using learned concepts pertaining to Information Technology domain.
- Encompass the ability to examine, plan and build innovative software products.
- Carry out the profession with ethics, integrity, leadership and social responsibility.

PROGRAM OUTCOMES

Graduates of Bachelor of Information Technology will have the following ability and capability at the end of course.

a. **Engineering knowledge:** Acquire and apply knowledge of Mathematics, Science and Information Technology appropriate to the discipline.

b. **Problem analysis:** Identify, formulate and analyze complex engineering problems using principles of mathematics and engineering sciences.

M.KUMARASAMY COLLEGE OF ENGINEERING

c. **Design/development of solutions**: Design and develop software components and systems to meet the industrial and societal needs.

d. **Conduct investigations of complex problems:** An ability to design and conduct experiments, as to analyze and interpret data.

e. **Modern tool usage:** An ability to adopt modern engineering and IT tools to perform complex engineering activities.

f. **The engineer and society:** Assess societal, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

g. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts.

h. **Ethics:** Understand professional and ethical responsibilities.

i. **Individual and team work:** Function effectively as an individual and as a team in multidisciplinary background.

j. **Communication:** Communicate effectively with a range of audiences.

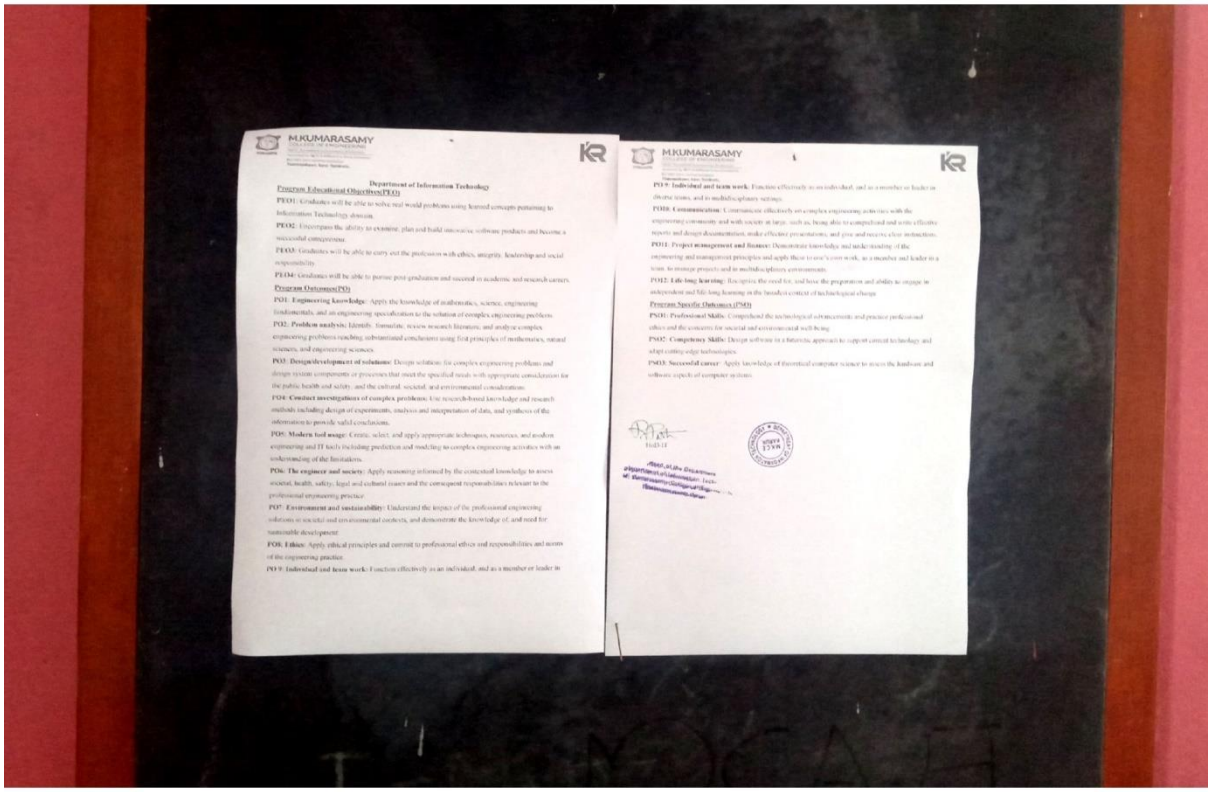
k. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply as a member and leader in a team, to manage projects and in multidisciplinary environments.

l. **Life-long learning:** An ability and desire towards life-long learning.

PROGRAM SPECIFIC OUTCOMES

- Apply knowledge of theoretical computer science to assess the hardware and software aspects of computer systems.
- Design software in a futuristic approach to support current technology and adapt cutting-edge technologies.
- Comprehend the technological advancements and practice professional ethics and the concerns for societal and environmental well being.

8. POs are displayed in the classroom notice boards



M.KUMARASAMY

Department of Information Technology

Program Educational Objectives(PEO)

PEO1: Graduates will be able to solve real world problems using learned concepts pertaining to Information Technology domain.

PEO2: Encompass the ability to examine, plan and build innovative software products and become a successful entrepreneur.

PEO3: Graduates will be able to carry out the profession with ethics, integrity, leadership and social responsibility.

PEO4: Graduates will be able to pursue post-graduation and succeed in academic and research careers.

Program Outcomes(PO)

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 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

M.KUMARASAMY

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 life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO)

PSO1: **Professional Skills**: Comprehend the technological advancements and practice professional ethics and the concerns for societal and environmental well-being.

PSO2: **Competency Skills**: Design software in a futuristic approach to support current technology and adapt cutting-edge technologies.

PSO3: **Successful career**: Apply knowledge of theoretical computer science to assess the hardware and software aspects of computer systems.