



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8791 - EMBEDDED SYSTEM DESIGN

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C403.1	Explain the need of embedded systems and their development procedures.	K2
C403.2	Summarizes the concepts involved in Real time operating systems.	K2
C403.3	Explain the construction, addressing modes and instructions sets of PIC micro controller	K3
C403.4	Describe various Embedded networking tools for developing embedded applications	K2
C403.5	Conduct experiments with I/O systems used in embedded systems.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C403.1	3	-	-	-	-	-	-	-	-	-	-	-	1	1
C403.2	3	1	1	-	-	-	-	-	-	-	-	-	1	1
C403.3	3	1	2	-	-	-	-	-	-	-	-	-	2	2
C403.4	3	1	2	-	1	-	-	-	-	-	-	-	1	1
C403.5	3	1	2	-	1	1	-	-	-	-	-	-	2	2
Average	3	1	1.75	-	1	1	-	-	-	-	-	-	1.4	1.4


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DEPARTMENT OF MECHATRONICS ENGINEERING

OAN751 - LOW COST AUTOMATION

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C404.1	Explain low cost automation systems.	K4
C404.2	assembly automation using a hydraulic system.	K4
C404.3	automation using a pneumatic system and PLC.	K4
C404.4	knowledge about different sensors and 8085 microprocessor in automation system.	K4
C404.5	knowledge about feeder, hopper in assembly automation.	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C404.1	3	-	-	-	-	-	-	-	-	-	-	-	1	1
C404.2	3	2	2	-	-	-	-	-	-	-	-	-	2	2
C404.3	3	2	2	-	-	-	-	-	-	-	-	-	2	2
C404.4	3	2	2	-	2	-	-	-	-	-	-	-	2	2
C404.5	3	-	2	-	-	-	-	-	-	-	-	-	2	1
Average	3	2	2	-	2	-	-	-	-	-	-	-	1.8	1.6


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GE8077 - TOTAL QUALITY MANAGEMENT

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C405.1	Describe the overview of quality and TQM and will be able to explain the salient contributions of Quality Gurus.	K2
C405.2	Differentiate the TQM concepts like customer Focus, Employee Focus and their involvement, continuous process improvement and Supplier Management	K3
C405.3	Use the basic and traditional seven management tools, quality concepts like six sigma, FMEA	K3
C405.4	Explore industrial applications of latest modern TQM Tools in Quality function deployment, taguchi quality concepts and TPM.	K3
C405.5	Illustrate the various quality systems in ISO 9000 - ISO 9001-2008 and ISO 14000 Concepts	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C405.1	-	-	-	-	-	-	-	-	1	1	1	-	-	-
C405.2	-	-	-	-	-	-	-	-	2	1	1	2	-	-
C405.3	-	1	-	1	3	1	-	1	-	1	-	1	-	-
C405.4	-	1	-	1	3	1	-	1	-	1	-	1	-	-
C405.5	-	-	-	-	-	2	3	-	-	-	-	-	-	-
Average	-	1	-	1	3	1.33	3	1	1.5	1	1	1.33	-	-


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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8003 - MEDICAL MECHATRONICS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C406.1	Explain different measurement techniques used in physiological parameters measurement.	K2
C406.2	Describe the sensors and signal conditioning circuits used in biomedical engineering.	K2
C406.3	Understand about various amplifiers, recording and display devices.	K3
C406.4	Differentiate the working of recorders and explain the advanced systems used in medicine	K4
C406.5	Understand about various Bio- medical diagnostics instrumentation	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C406.1	3	2	-	-	-	-	-	-	-	-	-	-	2	-
C406.2	3	-	2	-	-	1	-	-	-	-	-	-	1	2
C406.3	3	-	2	-	-	-	-	-	-	-	-	-	-	2
C406.4	3	1	-	-	-	-	-	-	-	-	-	-	1	2
C406.5	3	-	2	-	-	-	-	-	-	-	-	-	2	-
Average	3	1.5	2	-	-	1	-	-	-	-	-	-	1.5	2


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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8711 - COMPUTER AIDED DESIGN AND MANUFACTURING LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C407.1	Model and assemble a given three dimensional engineering components	K3
C407.2	Perform various analyses on simple structures for the application of different loads.	K3
C407.3	Generate CNC programs for a given components to work with CNC machines	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C407.1	2	2	3	-	3	-	-	-	-	-	-	-	3	1
C407.2	2	3	3	2	3	-	-	-	-	-	-	-	3	2
C407.3	-	2	3	2	3	-	-	-	-	-	-	-	3	2
Average	2	2.33	3	2	3	-	-	-	-	-	-	-	3	1.67


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MT8781 - ROBOTICS LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C408.1	Use of any robotic simulation software to model the different types of robots	K3
C408.2	Use to Calculate work volume for different robots and develop the different level of Programming in robot	K4
C408.3	Use to Use to Verify the Direct and Inverse kinematics equations for both single and two DOF	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C408.1	3	2	3	3	2	2	1	2	-	1	1	2	3	3
C408.2	3	2	3	2	3	2	1	-	-	-	1	2	3	2
C408.3	3	2	2	1	-	1	-	-	-	-	-	2	3	2
Average	3	2	2.67	2	2.5	1.67	1	2	-	1	1	2	3	2.33


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MT8801 - AUTOMOTIVE ELECTRONICS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C409.1	Understand the evolution of electronics and concepts of charging systems in modern automobiles.	K2
C409.2	Study about the ignition and injection control systems	K3
C409.3	Explain the working principles of sensors and actuators in automotive systems	K3
C409.4	Illustrate the control modes of engine control systems in modern automobiles	K3
C409.5	Outline various chassis and safety systems in automobile systems	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409.1	3	2	3	2	-	-	1	-	1	-	-	2	3	3
C409.2	3	2	3	2	-	-	1	-	1	-	-	2	3	3
C409.3	3	2	3	2	2	-	1	-	1	-	-	2	3	3
C409.4	3	2	3	2	2	-	1	-	1	-	-	2	3	3
C409.5	3	2	3	2	-	-	1	-	1	-	-	2	3	3
Average	3	2	3	2	2	-	1	-	1	-	-	2	3	3


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DEPARTMENT OF MECHATRONICS ENGINEERING

MG8091 - ENTREPRENEURSHIP DEVELOPMENT

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C410.1	Expound the types of Entrepreneurships and economic Growth	K2
C410.2	Importance of motivation and training on the Entrepreneurship Development	K2
C410.3	Selecting a Good Business opportunity and market survey research	K3
C410.4	Explain the term Loan, importance of taxation	K3
C410.5	Formulate the business Incubators – Government Policy for Small Scale Enterprises	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C410.1	-	-	-	-	-	1	2	2	3	2	2	3	-	1
C410.2	-	-	-	-	-	1	2	2	3	2	1	3	-	-
C410.3	-	-	-	-	-	1	2	3	3	2	3	3	1	2
C410.4	-	-	-	-	-	1	2	3	3	2	3	3	-	-
C410.5	-	-	-	-	-	1	2	2	3	2	2	3	-	1
Average	-	-	-	-	-	1	2	2.4	3	2	2.2	3	1	1.33


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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8811 - PROJECT WORK

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C412.1	Design, analyze, realize / simulate a physical system by using the technology they learnt during the program.	K4
C412.2	Integrate various systems into one Mechatronics product and Work in a team with confined time duration.	K6
C412.3	Disseminate his work both in oral and written format	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C412.1	3	3	3	1	1	2	2	2	2	3	3	3	2	2
C412.2	3	3	3	1	1	2	2	2	2	3	3	3	2	2
C412.3	3	3	3	1	1	2	2	2	2	3	3	3	2	2
Average	3	3	3	1	1	2	2	2	2	3	3	3	2	2


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GE8076 - PROFESSIONAL ETHICS IN ENGINEERING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C411.1	The students get the knowledge of human values and ethics.	K2
C411.2	The engineering ethics and moral issues are imparted to the students.	K2
C411.3	The students understand engineering as social experiments.	K2
C411.4	The students can able to know about the safety, responsibilities and rights.	K2
C411.5	The students can able to know about the global issues and ethics.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C411.1	-	-	-	-	-	1	-	3	2	2	-	2	2	2
C411.2	-	-	-	-	-	1	-	3	-	-	-	2	2	2
C411.3	-	-	-	-	-	1	-	3	-	-	-	2	-	-
C411.4	-	-	-	-	-	1	-	3	-	-	-	2	1	1
C411.5	-	-	-	-	-	1	2	3	-	-	-	2	1	1
Average	-	-	-	-	-	1	2	3	2	2	-	2	1.5	1.5


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DEPARTMENT OF MECHATRONICS ENGINEERING

EE8552 - POWER ELECTRONICS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C301.1	Describe basic operation and compare performance of various power semiconductor devices, passive components and switching circuits	K2
C301.2	Design and Analyze Controlled Rectifier circuits by assessing the requirements of application fields	K4
C301.3	Analyze and evaluate DC-DC converters and the applications of Choppers in emerging areas.	K4
C301.4	Identify the critical areas in application levels and suitable Power Inverters to control Electrical Motors and other industry grade apparatus	K3
C301.5	Analyze AC-AC converters and the applications of them in Industrial sectors.	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C301.1	2	1	1	-	-	-	-	-	-	-	-	1	2	2
C301.2	3	3	3	2	-	-	1	-	-	-	-	1	2	2
C301.3	3	3	3	1	-	-	1	-	-	-	-	1	2	2
C301.4	2	2	2	-	-	-	1	-	-	-	-	1	2	2
C301.5	2	1	1	1	-	-	-	-	-	-	-	1	2	2
Average	2.4	2	2	1.33	-	-	1	-	-	-	-	1	2	2

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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8591 - SENSORS AND INSTRUMENTATION

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C302.1	Familiar with various calibration techniques and signal types for sensors.	K3
C302.2	Apply the various sensors in the Automotive and Mechatronics applications	K3
C302.3	Describe the working principle and characteristics of force, magnetic and heading sensors.	K3
C302.4	Understand the basic principles of various pressure and temperature, smart sensors.	K3
C302.5	Ability to implement the DAQ systems with different sensors for real time applications	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C302.1	3	1	-	-	-	-	-	-	-	-	-	1	2	2
C302.2	3	1	-	-	-	-	-	-	-	-	-	2	2	2
C302.3	3	1	-	-	-	-	-	-	-	-	-	2	2	2
C302.4	3	-	1	-	-	-	-	-	-	-	-	2	2	2
C302.5	3	-	1	-	-	-	-	-	-	-	-	2	2	2
Average	3	1	1	-	-	-	-	-	-	-	-	1.8	2	2


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DEPARTMENT OF MECHATRONICS ENGINEERING

ME8594 - DYNAMICS OF MACHINES

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C303.1	Calculate statics and dynamic forces of mechanisms	K2
C303.2	Calculate the balancing masses and their locations of reciprocating and rotating masses	K2
C303.3	Compute the frequency of the free vibration	K3
C303.4	Compute the frequency of forced vibration and damping coefficient	K2
C303.5	Calculate the speed and lift of the governor and estimate the gyroscopic effect on automobiles, ships and airplanes	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C303.1	3	2	2	1	-	-	-	-	-	-	-	-	1	2
C303.2	3	1	2	1	-	-	-	-	-	-	-	-	1	2
C303.3	3	1	3	1	-	-	-	-	-	-	-	-	1	2
C303.4	3	1	3	1	-	-	-	-	-	-	-	-	1	2
C303.5	3	1	2	1	-	-	-	-	-	-	-	-	1	2
Average	3	3	2	1	1	1	-	-	-	-	-	-	-	2


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DEPARTMENT OF MECHATRONICS ENGINEERING

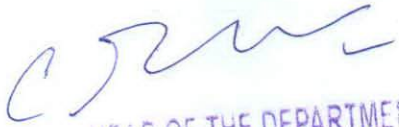
EC8391 - CONTROL SYSTEM ENGINEERING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C304.1	Identify the various control system components and their representations.	K3
C304.2	Analyze the various time domain parameters.	K4
C304.3	Analysis the various frequency response plots and its system.	K4
C304.4	Apply the concepts of various system stability criterions.	K4
C304.5	Design various transfer functions of digital control system using state variable models	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	3	1	1	-	-	1	-	-	-	-	-	1	2	1
C304.2	3	2	1	1	-	1	-	-	-	-	-	1	2	-
C304.3	3	2	2	2	-	-	-	-	-	-	-	1	-	1
C304.4	3	2	2	2	-	1	-	-	-	-	-	1	-	2
C304.5	3	2	1	1	-	1	-	-	-	-	-	1	1	1
Average	3	1.8	1.4	1.5	-	1	-	-	-	-	-	1	1.66	1.5


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DEPARTMENT OF MECHATRONICS ENGINEERING

OIM552 - LEAN MANUFACTURING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C305.1	Understand the concepts of Lean Manufacturing.	K3
C305.2	Acquaint the knowledge on cellular manufacturing, JIT, TPM.	K3
C305.3	Acquaint the knowledge on setup time reduction, TQM, 5S, VSM.	K3
C305.4	Apply Six Sigma techniques.	K3
C305.5	Analysing how lean technique can create value generation for organization.	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C305.1	2	1	-	-	-	1	-	-	-	-	-	2	-	1
C305.2	2	1	-	-	-	2	-	-	-	-	-	2	-	1
C305.3	2	1	-	-	-	2	-	-	-	-	-	2	-	1
C305.4	2	1	-	-	-	1	-	-	-	-	-	2	-	1
C305.5	2	2	2	2	2	3	2	2	2	2	2	2	-	1
Average	2	1.2	2	2	2	1.8	2	2	2	2	2	2		1

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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8511 - POWER ELECTRONICS LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C306.1	Ability to use Semiconductor thyristors in Power electronics circuitry	K4
C306.2	Ability to perform characteristic study on the electronics components.	K2
C306.3	Ability to perform speed control using Thyristors as switches	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C306.1	3	-	-	-	1	-	1	1	2	2	-	1	2	2
C306.2	3	1	-	1	1	-	1	1	2	2	-	1	2	2
C306.3	3	2	1	1	1	1	1	1	2	2	-	1	2	2
Average	3	1.5	1	1	1	1	1	1	2	2	-	1	2	2


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DEPARTMENT OF MECHATRONICS ENGINEERING

MT8512 - SENSORS AND INSTRUMENTATION LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C307.1	Generate appropriate design procedure to obtain a required measurement data for temperature, force, humidity, displacement and sound	K2
C307.2	Design appropriate circuits by using conventional formulas used in signal conditioning and conversion.	K2
C307.3	Use transducers to create simple Mechatronics applications using data logging software.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C307.1	3	3	-	1	-	-	-	-	2	-	-	2	3	3
C307.2	3	3	-	1	-	-	-	-	2	-	-	2	3	3
C307.3	3	3	3	2	2	-	-	-	2	-	-	2	3	3
Average	3	3	3	1.33	2	-	-	-	2	-	-	2	3	3


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DEPARTMENT OF MECHATRONICS ENGINEERING

ME8481 - DYNAMICS LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C308.1	Ability to demonstrate the principles of kinematics and dynamics of machinery	K3
C308.2	Ability to use the measuring devices for dynamics testings	K3
C308.3	Ability to demonstrate / evaluate the natural frequency of free and forced vibrations of machine elements	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C308.1	3	2	2	-	-	-	-	-	1	1	-	-	1	-
C308.2	3	2	-	-	-	2	-	-	1	1	-	-	1	-
C308.3	3	2	-	-	-	2	1	-	1	1	-	1	1	-
Average	3	2	2	-	-	2	1	-	1	-	-	-	1	-


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

HS8581 - PROFESSIONAL COMMUNICATION

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C309.1	Make effective presentations and Participate confidently in Group Discussions.	K2
C309.2	Attend job interviews and be successful in them.	K2
C309.3	Develop adequate Soft Skills required for the workplace	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C309.1	-	-	-	-	-	-	-	-	2	2	-	3	-	-
C309.2	-	-	-	-	-	-	-	2	3	3	-	3	-	-
C309.3	-	-	-	-	-	-	-	-	3	3	-	3	-	-
Average	-	-	-	-	-	-	-	2	2.67	2.67	-	3	-	-


HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8591 - APPLIED HYDRAULICS AND PNEUMATICS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C310.1	Understand the principles of fluid power systems and their symbols	K2
C310.2	Categorize the characteristic of pump.	K2
C310.3	Impart knowledge to design the fluid power circuits.	K3
C310.4	Develop the pneumatic systems and their components.	K3
C310.5	Design the various pneumatic and hydraulic systems in industrial environments.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C310.1	3	2	2	-	1	1	2	-	-	-	-	2	3	3
C310.2	3	2	2	-	1	1	1	-	-	-	-	2	3	3
C310.3	3	2	2	2	1	1	2	1	-	-	-	2	3	3
C310.4	3	2	2	2	1	1	2	1	-	-	-	2	3	3
C310.5	3	2	1	2	1	1	2	1	-	-	-	2	3	3
Average	3	2	1.8	2	1	1	1.8	1	-	-	-	2	3	3


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8601 - DESIGN OF MECHATRONICS SYSTEM

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C311.1	Understand the basics and key elements of Mechatronics design process	K3
C311.2	Familiar with basic system modelling	K3
C311.3	Understand the concepts of engineering system and dynamic response of the system	K3
C311.4	Realize the concepts of real time interfacing and data acquisition	K3
C311.5	Understanding the concepts of design of Mechatronics system through case studies	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C311.1	3	1	2	-	-	-	-	-	-	-	-	2	1	1
C311.2	3	2	2	2	1	-	-	-	-	-	-	2	1	1
C311.3	3	2	1	2	1	-	-	-	-	-	-	2	2	2
C311.4	3	-	-	2	-	-	-	-	-	-	-	2	2	2
C311.5	3	-	2	-	-	-	-	-	-	-	-	2	3	3
Average	3	1.67	1.75	2	1	-	-	-	-	-	-	2	1.8	1.8


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DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8593 - DESIGN OF MACHINE ELEMENTS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C312.1	Understand the influence of steady and variable stresses in machine component design	K2
C312.2	Apply the concepts of design to shafts, keys and couplings	K3
C312.3	Apply the concepts of design to temporary and permanent joints	K3
C312.4	Apply the concepts of design to energy absorbing members, connecting rod and crank shaft	K3
C312.5	Apply the concepts of design to bearings	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C312.1	3	3	2	2	-	1	1	1	-	1	-	1	3	1
C312.2	3	3	2	2	-	1	1	1	-	1	-	1	3	1
C312.3	3	3	2	2	-	1	1	1	-	1	-	1	3	1
C312.4	3	3	2	2	-	1	1	1	-	1	-	1	3	1
C312.5	3	3	2	2	-	1	1	1	-	1	-	1	3	1
Average	3	3	2	2	2	1	1	1	-	1	-	1	3	1

HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8602 - INDUSTRIAL AUTOMATION

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C313.1	Choose appropriate PLC and explain the architecture, installation procedures and trouble shooting.	K2
C313.2	Develop PLC programs using various functions of PLCs for a given application.	K3
C313.3	Explain the application development procedures in SCADA and manage data, alarm and storage.	K3
C313.4	Distinguish DCS, SCADA and PLC and explain the architecture of DCS	K2
C313.5	Describe the controller elements and program methods	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C313.1	3	1	-	-	-	-	-	-	-	-	-	-	3	3
C313.2	3	2	2	1	1	-	-	-	-	-	-	-	3	3
C313.3	3	2	2	2	1	-	-	-	-	-	-	-	3	3
C313.4	3	2	2	2	1	-	-	-	-	-	-	-	3	3
C313.5	3	2	2	2	1	-	-	-	-	-	-	-	3	3
Average	3	1.8	2	1.75	1	-	-	-	-	-	-	-	3	3


HEAD OF THE DEPARTMENT -
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MG8591 - PRINCIPLES OF MANAGEMENT

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C314.1	understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management	K2
C314.2	understanding of Planning	K2
C314.3	understanding of Organizing	K2
C314.4	understanding of Directing	K2
C314.5	understanding of Controlling	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C314.1	-	-	-	-	-	1	1	-	3	-	-	1	-	-
C314.2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
C314.3	-	-	-	-	-	-	-	-	-	-	-	1	-	-
C314.4	-	-	-	-	-	-	-	-	2	-	3	1	-	-
C314.5	-	-	-	-	1	-	-	-	3	1	3	1	-	-
Average	-	-	-	-	1	1	1	-	2.67	1	3	1	-	-


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8091 - AUTOMOBILE ENGINEERING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C315.1	Recognize the various parts of the automobile and their functions and materials.	K1
C315.2	Discuss the engine auxiliary systems and engine emission control.	K1
C315.3	Distinguish the working of different types of transmission systems.	K2
C315.4	Steering, Brakes and Suspension Systems.	K1
C315.5	Predict possible alternate sources of energy for IC Engines.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C315.1	2	-	-	-	-	-	-	-	-	-	-	-	1	1
C315.2	2	1	-	-	-	-	1	1	-	-	-	-	1	1
C315.3	2	1	-	-	-	-	-	-	-	-	-	-	1	1
C315.4	2	1	-	-	-	-	-	-	-	-	-	-	1	1
C315.5	2	1	-	-	-	-	1	-	-	-	-	-	1	1
Average	2	1	-	-	-	-	1	1	-	-	-	-	1	1


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8611 - APPLIED HYDRAULICS AND PNEUMATICS LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C316.1	Select the actuators and valves for the design of fluid power circuits.	K3
C316.2	Design and simulate the fluid power circuits using software tool.	K3
C316.3	Test the simulated output by constructing the fluid power circuits using suitable actuators and valves	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C316.1	3	2	-	-	1	3	2	2	-	2	-	2	2	2
C316.2	2	3	-	-	2	2	-	3	1	2	3	2	2	2
C316.3	2	2	3	-	2	-	-	3	-	-	-	-	1	2
Average	2.33	2.33	3		1.66	2.5		2.66	1	2	3	2	1.66	2


HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8612 - INDUSTRIAL AUTOMATION LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C317.1	Carryout wiring connections and troubleshoot in different PLCs and Develop simple applications using LD, ST and FBD mode of programming.	K3
C317.2	Use timers and counter functions of PLC to construct simple applications and integrate and control process station with PLC.	K3
C317.3	Develop SCADA application using open source software and Perform speed control on AC motor using VFD and PLC.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C317.1	3	2	3	2	3	2	2	2	2	3	2	3	3	3
C317.2	3	2	3	2	3	2	2	2	2	3	2	3	3	3
C317.3	3	2	3	3	3	2	3	2	2	3	2	3	3	3
Average	3	2	3	2.3	3	2	2.3	2	2	3	2	3	3	3


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8682 - DESIGN AND FABRICATION PROJECT

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C318.1	Design, analyze, realize / simulate a physical system by using the technology they learnt during the program.	K4
C318.2	Integrate various systems into one Mechatronics product and Work in a team with confined time duration.	K6
C318.3	Disseminate his work both in oral and written format	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C318.1	3	3	3	1	1	2	2	2	2	3	3	3	2	2
C318.2	3	3	3	1	1	2	2	2	2	3	3	3	2	2
C318.3	3	3	3	1	1	2	2	2	2	3	3	3	2	2
Average	3	3	3	1	1	2	2	2	2	3	3	3	2	2


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8691 - COMPUTER AIDED DESIGN AND MANUFACTURING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C401.1	Explain the 2D and 3D transformations, clipping algorithm, Manufacturing models and Metrics	K2
C401.2	Explain the fundamentals of parametric curves, surfaces and Solids	K2
C401.3	Summarize the different types of Standard systems used in CAD	K2
C401.4	Apply NC & CNC programming concepts to develop part programme for Lathe & Milling Machines	K2
C401.5	Summarize the different types of techniques used in Cellular Manufacturing and FMS	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C401.1	3	2	-	-	1	-	-	-	-	-	-	-	1	1
C401.2	3	2	2	2	1	-	-	-	-	-	-	-	1	1
C401.3	3	2	2	2	1	-	-	-	-	-	-	-	1	1
C401.4	3	2	2	2	-	-	-	-	-	-	-	-	1	1
C401.5	3	2	2	2	-	-	-	-	-	-	-	-	1	1
Average	3	2	2	2	1	-	-	-	-	-	-	-	1	1


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8701 - ROBOTICS AND MACHINE VISION SYSTEM

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C402.1	Express the basic concepts, laws, Components and Parameters of robots	K3
C402.2	Explain the types of grippers and its functions.	K3
C402.3	Evaluate the kinematic calculations and apply Lagrangian and Newton-Euler Methods to analysis dynamic characteristics of robots	K3
C402.4	Describing the various programming techniques used in Industrial robots.	K3
C402.5	Explain the fundamentals of machine vision with image acquisition, sampling, edge detection and its morphology	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C402.1	3	2	1	-	-	-	-	-	-	-	-	-	2	2
C402.2	3	2	2	2	1	2	-	-	-	-	-	2	3	3
C402.3	3	2	2	2	-	2	-	-	-	-	-	-	3	3
C402.4	3	2	2	2	2	-	-	-	-	-	-	-	3	3
C402.5	2	2	2	2	1	-	-	-	-	-	-	2	3	3
Average	2.8	2	1.8	2	1.33	2	-	-	-	-	-	2	2.8	2.8


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MA8353 - TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C201.1	Understand how to solve the given standard partial differential equations.	K3
C201.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.	K3
C201.3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations	K3
C201.4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.	K3
C201.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201.1	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C201.2	3	2	1	-	-	-	-	-	-	-	-	1	1	-
C201.3	3	2	1	-	-	-	-	-	-	-	-	1	1	-
C201.4	3	2	1	-	-	-	-	-	-	-	-	1	-	-
C201.5	3	2	1	-	-	-	-	-	-	-	-	1	1	-
Average	3	2	1	-	-	-	-	-	-	-	-	1	1	-

HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

CE8395 - STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C202.1	Understand the concepts of stress and strain in simple and compound bars, the importance of principal stresses and principal planes.	K2
C202.2	Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.	K2
C202.3	Apply basic equation of simple torsion in designing of shafts and helical spring	K3
C202.4	Calculate the slope and deflection in beams using different methods	K3
C202.5	Analyze and design thin and thick shells for the applied internal and external pressures	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C202.1	3	2	1	-	-	-	-	-	-	-	-	-	2	1
C202.2	3	2	1	-	-	1	1	-	-	-	-	1	2	1
C202.3	3	2	1	-	-	1	-	-	-	-	-	-	2	1
C202.4	3	2	1	-	-	1	1	-	-	-	-	1	2	1
C202.5	3	2	1	-	-	1	-	-	-	-	-	-	2	1
Average	3	2	1	-	-	1	1	-	-	-	-	1	2	1


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

EC8392 - DIGITAL ELECTRONICS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C204.1	Develop a basic knowledge about digital fundamentals	K2
C204.2	Design of combinational sequential circuits.	K2
C204.3	Analyse and design the Synchronous sequential circuits.	K3
C204.4	Analyse and design the Asynchronous sequential circuits	K3
C204.5	Concept of memories and programmable logic devices.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C204.1	3	1	1	-	-	-	-	-	-	-	-	-	-	-
C204.2	3	2	2	1	-	1	-	-	-	-	-	-	1	1
C204.3	3	2	2	1	-	1	-	-	-	-	-	-	1	1
C204.4	3	2	2	1	-	1	-	-	-	-	-	-	1	1
C204.5	3	1	1	-	-	-	-	-	-	-	-	-	-	-
Average	3	1.6	1.6	1	-	1	-	-	-	-	-	-	1	1


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

CE8394 - FLUID MECHANICS AND MACHINERY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C203.1	Apply mathematical knowledge to predict the properties and characteristics of a fluid.	K2
C203.2	Analyse and calculate major and minor losses associated with pipe flow in piping networks.	K2
C203.3	Model the nature of physical quantities	K3
C203.4	Analyse the performance of pumps	K4
C203.5	Analyse the performance of turbines.	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	1	1	1	-	2	1	-	-	-	-	1	2	2
C203.2	3	2	-	2	-	1	-	-	-	-	-	1	2	2
C203.3	3	2	-	1	2	-	-	1	1	-	2	-	1	2
C203.4	3	2	1	2	-	2	2	1	1	-	-	1	2	2
C203.5	3	2	1	2	-	2	2	1	1	-	-	1	-	-
Average	3	1.8	1	1.6	2	1.75	1.6	1	1	-	2	1	1.75	2


HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8301 - ELECTRICAL MACHINES AND DRIVES

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C205.1	Develop basic knowledge about the Electric circuits and transformers.	K4
C205.2	Explain the various types of electrical motors.	K4
C205.3	Illustrate speed control and starting methods DC and induction motors	K4
C205.4	Explain about various types of electrical drives	K4
C205.5	Get exposure with solid state drives	K5

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C205.1	3	2	1	2	-	1	1	-	-	-	-	1	1	1
C205.2	3	2	1	1	-	1	1	-	-	-	-	1	2	2
C205.3	3	1	1	1	-	1	1	-	-	-	-	1	2	2
C205.4	3	2	2	1	-	1	1	-	-	-	-	1	2	2
C205.5	3	1	1	1	-	1	1	-	-	-	-	1	2	2
Average	3	1.6	1.2	1.2	-	1	1	-	-	-	-	1	1.8	1.8


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8302 - ANALOG DEVICES AND CIRCUITS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C206.1	Explain the significance of switching devices and various types of oscillators.	K2
C206.2	Summarize the DC & AC characteristics of Operational amplifier and its application	K3
C206.3	Analyze the various waveform generators and describe the special ICs	K4
C206.4	Illustrate the various test and measuring instruments.	K2
C206.5	Explains about the various types of display devices	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C206.1	3	3	1	-	-	-	-	-	-	-	-	-	1	1
C206.2	3	2	2	-	-	-	-	-	-	-	-	-	1	1
C206.3	3	3	2	-	-	-	-	-	-	-	-	-	1	1
C206.4	3	-	-	-	-	-	-	-	-	-	-	-	1	1
C206.5	3	-	-	-	-	-	-	-	-	-	-	-	1	1
Average	3	2.67	1.67	-	-	-	-	-	-	-	-	-	1	1


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

CE8381 - STRENGTH OF MATERIALS AND FLUID MECHANICS & MACHINERY LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C207.1	Develop basic knowledge about the strength of materials and fluid properties	K3
C207.2	Ability to perform test on turbine, and various types of pumps	K4
C207.3	Ability to perform Tension, Torsion, Hardness, Compression, and Deformation test on Solid materials.	K4

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C207.1	3	2	2	2	-	1	1	1	2	2	1	2	2	2
C207.2	3	2	2	2	-	1	1	1	2	2	1	2	2	2
C207.3	3	2	2	2	-	1	1	1	2	2	1	2	2	2
Average	3	2	2	2	-	1	1	1	2	2	1	2	2	2


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT831 - ELECTRICAL MACHINES AND DRIVES LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C208.1	Test and assess the performances of the DC motors and single phase AC motor for varying load.	K4
C208.2	Control the speed of AC and DC motor.	K4
C208.3	Analyze and present the findings of experimental observations in both written and oral format.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C208.1	3	2	2	3	-	2	1	1	2	1	-	2	1	2
C208.2	3	2	2	2	-	2	1	1	2	1	-	1	1	2
C208.3	3	3	1	2	-	-	-	1	2	2	-	1	1	1
Average	3	2.33	1.67	2.33	-	2	1	1	2	1.33	-	1.33	1	1.67


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

HS8381 - INTERPERSONAL SKILLS/LISTENING & SPEAKING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C209.1	Listen and respond appropriately.	K2
C209.2	Participate in group discussions and Make effective presentations	K2
C209.3	Participate confidently and appropriately in conversations both formal and informal	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C209.1	2	2	-	1	2	-	1	2	-	3	-	3	1	2
C209.2	2	1	-	1	-	2	2	1	3	2	-	-	1	2
C209.3	1	-	-	-	2	2	2	1	-	2	-	1	1	2
Average	1.67	1.5	-	1	2	2	1.67	1.33	3	2.33	-	2	1	2


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MA8452 - STATISTICS AND NUMERICAL METHODS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C210.1	Apply the concept of testing of hypothesis for small and large samples in real life problems.	K3
C210.2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.	K3
C210.3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.	K3
C210.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations	K3
C210.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C210.1	3	2	2	-	-	-	-	-	-	-	-	1	1	-
C210.2	3	2	2	2	2	-	-	-	-	-	-	1	1	-
C210.3	3	2	2	-	-	-	-	-	-	-	-	1	-	-
C210.4	3	2	2	-	-	-	-	-	-	-	-	1	-	-
C210.5	3	2	2	-	-	-	-	-	-	-	-	1	-	-
Average	3	2	2	2	2	-	-	-	-	-	-	1	1	-


 HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8392 - MANUFACTURING TECHNOLOGY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C211.1	Provide with the basic concepts of engineering fundamentals on various molding and casting processes, apply appropriate techniques by to obtain defect free casting.	K2
C211.2	Acquire the basic knowledge, engineering fundamentals of metal joining processes and identify the suitable welding techniques and apply them to the specific needs with safe. environmental conditions in welding industries.	K3
C211.3	Provide with the basic engineering fundamentals of various Machining Process, Conventional Machining Process, Basics of CNC machines, Unconventional Machining Process.	K3
C211.4	Gained knowledge about various types of Plastics and Shaping of Plastics.	K4
C211.5	Explain the basic engineering fundamentals of various metal forming processes, equipment's, design of forming dies and Powder metallurgy.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C211.1	3	1	-	-	-	2	2	1	-	-	-	1	-	-
C211.2	3	1	-	-	-	2	2	1	-	-	-	1	1	1
C211.3	3	1	-	-	-	2	2	1	-	-	-	1	1	1
C211.4	3	1	-	-	-	2	2	1	-	-	-	1	-	-
C211.5	3	1	-	-	-	2	2	1	-	-	-	1	-	-
Average	3	1	-	-	-	2	2	1	-	-	-	1	1	1


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8491 - MICROPROCESSORS AND MICROCONTROLLERS

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C212.1	Distinguish the feature of the 8085 microprocessor, Hardware Architecture and PIN diagram.	K2
C212.2	Demonstrate programming proficiency using the various addressing modes and data transfer instructions of 8085 microprocessor	K3
C212.3	Acquaint the knowledge on architecture and programming of Microcontroller 8051	K3
C212.4	Illustrate the interrupts handling and demonstrate peripherals applications in different IC and Know about A/D and D/A converters.	K3
C212.5	Apply the programming concepts to interface the hardware units with microprocessor and Microcontroller	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C212.1	3	-	-	-	-	-	-	-	-	-	-	-	1	1
C212.2	3	1	1	1	1	-	-	-	-	-	-	-	2	2
C212.3	3	1	1	1	1	1	-	-	-	-	-	-	2	2
C212.4	3	1	2	1	-	1	-	-	-	-	-	-	2	2
C212.5	3	1	2	1	1	1	-	-	-	-	-	-	2	2
Average	3	1	1.50	1	1	1	-	-	-	-	-	-	1.80	1.80


HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8492 - KINEMATICS OF MACHINERY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C213.1	Discuss the basics of mechanism	K2
C213.2	Calculate velocity and acceleration in simple mechanisms	K2
C213.3	Develop CAM profiles	K3
C213.4	Solve problems on gears and gear trains	K3
C213.5	Examine friction in machine elements	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C213.1	3	2	1	1	-	-	-	-	-	-	-	-	2	1
C213.2	3	2	2	1	-	-	-	-	-	-	-	-	2	1
C213.3	3	2	1	1	-	-	-	-	-	-	-	-	2	1
C213.4	3	2	1	1	-	1	-	-	-	-	-	-	2	1
C213.5	3	2	1	1	-	1	-	-	-	-	-	1	2	1
Average	3	2	1.2	1	-	1	-	-	-	-	-	1	2	1

HEAD OF THE DEPARTMENT
DEPARTMENT OF MECHATRONICS ENGINEERING
CHENNAI INSTITUTE OF TECHNOLOGY
KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8401- THERMODYNAMICS AND HEAT TRANSFER

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C214.1	Understanding the basic concepts first law of thermodynamics.	K2
C214.2	Understand basic concepts associated with second law of thermodynamics.	K2
C214.3	Describing the working of I.C.Engines and to determine its performance parameters.	K2
C214.4	Basic principles of refrigeration, air conditioning and psychrometric chart.	K2
C214.5	Distinguishing the various modes of heat transfer and its applications.	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C214.1	3	2	1	1	-	2	1	1	-	-	-	1	1	1
C214.2	3	2	1	1	-	2	1	1	-	-	-	1	1	1
C214.3	3	2	1	1	-	2	1	1	-	-	-	1	2	1
C214.4	3	2	1	1	-	2	1	1	-	-	-	1	1	1
C214.5	3	2	1	1	-	2	1	1	-	-	-	1	1	2
Average	3	2	1	1	-	2	1	1	-	-	-	1	1.2	1.2


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8461 - MANUFACTURING TECHNOLOGY LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C216.1	Ability to use different machine tools to manufacturing gears	K2
C216.2	Ability to use different machine tools for finishing operations	K3
C216.3	Develop CNC part programming	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C216.1	2	-	1	2	-	1	1	2	2	2	1	2	2	1
C216.2	2	-	1	2	-	-	1	2	2	2	1	2	2	1
C216.3	2	1	1	2	2	1	1	2	2	2	1	2	2	1
Average	2	1	1	2	2	1	1	2	2	2	1	2	2	1


 - HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

MT8411 - MICROPROCESSOR AND MICROCONTROLLERS LABORATORY

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C215.1	Solve the arithmetic operations using microprocessors and various on-chip and off-chip interfacing and algorithms	K3
C215.2	Solve the arithmetic operations using microcontrollers and various on-chip and off-chip interfacing and algorithms	K3
C215.3	Design the digital and analog hardware interface for microcontroller-based systems	K3

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215.1	3	2	3	3	3	2	1	1	1	2	2	2	1	1
C215.2	3	2	3	3	3	2	1	1	1	2	2	2	1	1
C215.3	3	2	3	3	3	2	1	1	1	2	2	2	1	1
Average	3	2	3	3	3	2	1	1	1	2	2	2	1	1


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

ME8381 COMPUTER AIDED MACHINE DRAWING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C217.1	Follow the drawing standards, Fits and Tolerances	K2
C217.2	Re-create part drawings, sectional views and assembly drawings as per standards	K2
C217.3	Model and assemble a given three dimensional engineering components	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C217.1	2	2	3	3	-	-	-	-	-	-	-	-	3	1
C217.2	2	3	3	2	2	-	-	-	-	-	-	-	3	2
C217.3	-	2	3	2	-	-	-	-	-	-	-	-	3	1
Average	2	2.33	3	2.33	2	-	-	-	-	-	-	-	3	1.33


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
 KUNDRATHUR - 600069.



DEPARTMENT OF MECHATRONICS ENGINEERING

HS8461 ADVANCED READING AND WRITING

Upon the successful completion of the course, the students will be able to

CO's	COURSE OUTCOMES	RBT
C218.1	Write different types of essays.	K2
C218.2	Write winning job applications	K2
C218.3	Read and evaluate texts critically and display critical thinking in various professional contexts.	K2

MAPPING OF COURSE OUTCOMES WITH PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOME

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C218.1	3	2	-	-	3	-	-	3	1	3	-	3	1	2
C218.2	2	-	-	-	-	2	3	-	-	2	-	-	-	2
C218.3	-	-	-	-	2	-	-	-	-	2	-	2	1	2
Average	2.5	2	-	-	2.5	2	3	3	1	2.33	-	2.5	1	2


HEAD OF THE DEPARTMENT
 DEPARTMENT OF MECHATRONICS ENGINEERING
 CHENNAI INSTITUTE OF TECHNOLOGY
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