



CRITERION2-TEACHING-LEARNING AND EVALUATION

KEY INDICATOR 2.6 STUDENT PERFORMANCE AND LEARNING OUTCOMES

PROGRAM EDUCATIONAL OBJECTIVES(PEOs)

PEO1	Have a successful career in Mechanical Engineering and allied industries.
PEO2	Have expertise in the areas of Design, Thermal, Materials and Manufacturing.
PEO3	Contribute towards technological development through academic research and industrial practices.
PEO4	Practice their profession with good communication, leadership, ethics and socialresponsibility.
PEO5	Graduates will adapt to evolving technologies through life-long learning.

1.PROGRAM OUTCOMES(POs) AND PROGRAM SPECIFIC OUTCOMES(PSOs) OF THE INSTITUTE

PROGRAM OUTCOMES(POs)

PO1	An ability to apply knowledge of mathematics and engineering sciences to develop mathematical models for industrial problems.
PO2	An ability to identify formulates and solve complex engineering problems with high degree of competence.
PO3	An ability to design and conduct experiments, as well as to analyze and interpret data obtained through those experiments.
PO4	An ability to design mechanical systems, component, or a process to meet desired needs with in there a list icconstraints such as environmental, social, political and economic sustainability.
PO5	An ability to use modern tools, software and equipment to analyze multi disciplinary problems.
PO6	An ability to demonstrate on professional and ethical responsibilities.
PO7	An ability to communicate, write reports and express research findings in a scientific community.
PO8	An ability to adapt quickly to the global changes and contemporary practices.



PO9 An ability to engage in life-long learning.

2.PROGRAM SPECIFIC OUTCOMES(PSOs) OF MECHANICAL ENGINEERING

PSO1	Apply the knowledge gained in Mechanical Engineering for design and development and manufacture of engineering systems.
PSO2	Apply the knowledge acquired to investigate research-oriented problems in mechanical engineering with due consideration for environmental and social impacts.
PSO3	Use the engineering analysis and data management tools for effective management of multi disciplinary projects.

LIST OF COURSE FOR REGULATION-2017

S.NO	COURSE CODE	SUBJECT CODE	SUBJECTNAME
1ST SEMESTER			
1	CO101	HS8151	Communicative English
2	CO102	MA8151	Engineering Mathematics- I
3	CO103	PH8151	Engineering Physics
4	CO104	CY8151	Engineering Chemistry
5	CO105	GE8151	Problem Solving and Python Programming
6	CO106	GE8152	Engineering Graphics
7	CO107	GE8171	Problem Solving and Python Programming Laboratory
8	CO108	BS8171	Physics and Chemistry Laboratory
IIND SEMESTER			
9	CO109	HS8251	Technical English



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

10	CO110	MA8251	Engineering Mathematics-II
11	CO111	PH8251	Materials Science
12	CO112	BE8253	Basic Electrical, Electronics and Instrumentation Engineering
13	CO113	GE8291	Environmental Science and Engineering
14	CO114	GE8292	Engineering Mechanics
15	CO115	GE8261	Engineering Practices Laboratory
16	CO116	BE8261	Basic Electrical, Electronics and Instrumentation Engineering Laboratory
IIIRD SEMESTER			
17	CO201	MA8353	Transforms and Partial Differential Equations
18	CO202	ME8391	Engineering Thermodynamics
19	CO203	CE8394	Fluid Mechanics and Machinery
20	CO204	ME8351	Manufacturing Technology-I
21	CO205	EE8353	Electrical Drives and Controls
22	CO206	ME8361	Manufacturing Technology Laboratory-I
23	CO207	ME8381	Computer Aided Machine Drawing
24	CO208	EE8361	Electrical Engineering Laboratory
25	CO209	HS8381	Interpersonal Skills/Listening & Speaking
IVTH SEMESTER			
28	CO2010	MA8452	Statistics and Numerical Methods
29	CO2011	ME8492	Kinematics of Machinery
30	CO2012	ME8451	Manufacturing Technology-II



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

31	CO2013	ME8491	Engineering Metallurgy
32	CO2014	CE8395	Strength of Materials for Mechanical Engineers
33	CO2015	ME8493	Thermal Engineering-I
34	CO2016	ME8462	Manufacturing Technology Laboratory–II
35	CO2017	CE8381	Strength of Materials and Fluid Mechanics and Machinery Laboratory
36	CO2018	HS8461	Advanced Reading and Writing
VTHSEMESTER			
36	CO301	ME8595	Thermal Engineering-II
37	CO302	ME8593	Design of Machine Elements
38	CO303	ME8501	Metrology and Measurements
39	CO304	ME8594	Dynamics of Machines
40	CO305	ORO551	Renewable Energy Sources
41	CO306	ME8511	Kinematics and Dynamics Laboratory
42	CO307	ME8512	Thermal Engineering Laboratory
43	CO308	ME8513	Metrology and Measurements Laboratory
VITHSEMESTER			
44	CO309	ME8651	Design of Transmission Systems
45	CO310	ME8691	Computer Aided Design and Manufacturing
46	CO311	ME8693	Heat and Mass Transfer
47	CO312	ME8692	Finite Element Analysis
48	CO313	ME8694	Hydraulics and Pneumatics



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

49	CO314	ME8091	Automobile engineering
50	CO315	ME8681	CAD/CAM Laboratory

51	CO316	ME8682	Design and Fabrication Project
52	CO317	HS8581	Professional Communication

VIITH SEMESTER

53	CO401	ME8792	Power Plant Engineering
54	CO402	ME8793	Process Planning and Cost Estimation
55	CO403	ME8791	Mechatronics
56	CO404	ME8073	Unconventional Machining Processes
57	CO405	ME8097	Non Destructive Testing And Evaluation
58	CO406	OML751	Lean Six Sigma
59	CO407	ME8711	Simulation and Analysis Laboratory
60	CO408	ME8781	Mechatronics Laboratory
61	CO409	ME8712	Technical Seminar

VIIITH SEMESTER

62	CO410	MG8591	Principles of Management
63	CO411	IE8693	Production Planning and Control
64	CO412	ME8811	Project Work



6.COURSE OUTCOMES FOR MECHANICAL ENGINEERING

REGULATION 2017

PROGRAMME:MECHANICAL ENGINEERING	DEGREE:U.G	ACADEMIC YEAR: 2019-2020	SEMESTER:I
-------------------------------------	------------	-----------------------------	------------

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand		KNOWLEDGE LEVEL
1	I-YEAR I-SEM	HS8151- Communicative English	C101.1	Read articles of a general kind in magazines and news papers.	K5
			C101.2	Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.	K5
			C101.3	Comprehend conversations and short talks delivered in English	K6
			C101.4	Write shortest says of a general kind and personal letters and emails in English.	K5
2	I-YEAR I-SEM	MA8151- Engineering Mathematics- I	C102.1	Use both the limit definition and rules of differentiation to differentiate functions.	K3
			C102.2	Apply differential calculus tools in Solving various application problems.	K3
			C102.3	Able to use differential calculus ideas On several variable functions	K3
			C102.4	Apply different methods of integration in solving practical problems	K6
			C102.5	Apply multiple integral ideas in solving areas, volumes and other practical problems	K4



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

3	I-YEAR I-SEM	PH8151- Engineering Physics	C103.1	The students will gain knowledge on the basics of properties of matter and its applications	K3
			C103.2	The students will acquire knowledge on the concepts of waves and optical devices and their applications in fiber optics	K3
			C103.3	The students will have adequate knowledge on the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers	K3
			C103.4	The students will get knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes	K4
			C103.5	The students will understand the basics of crystals, their structures and different crystal growth techniques	K5
4	I-YEAR I-SEM	CY8151- Engineering Chemistry	C104.1	To infer the quality of water from quality parameter data and propose suitable treatment methodologies to Treat water	K6
			C104.2	To identify and apply basic Concepts of nano science and nano Technology in designing the synthesis Of nano-materials for engineering and Technology applications	K5
			C104.3	To apply the knowledge of phase rule and composites for material selection requirements.	K5
			C104.4	To recommend suitable fuels for engineering processes and applications	K6
			C104.5	To recognize different forms of energy resources and apply them for Suitable applications in energy sectors.	K6
5	I-YEAR I-SEM	GE8151- Problem Solving And Python Programming	C105.1	Develop algorithmic solutions to simple computational problems	K4
			C105.2	Read, write, execute by hand simple Python programs.	K5
			C105.3	Structure simple Python programs for solving problems	K4



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

			C105.4	Decompose a Python program into functions.	K5
			C105.5	Represent compound data using Pythonlists, tuples, and dictionaries.	K4
			C105.6	Read and write data from/to files in Python Programs.	K3
6	I-YEAR I-SEM	GE8152- Engineering Graphics	C106.1	Familiarize with the fundamentals and standards of Engineering graphics	K1
			C106.2	Perform freehand sketching of basic geometrical constructions and multiple views of objects.	K1
			C106.3	Project orthographic projections of lines and plane surfaces.	K1
			C106.4	Draw projections and solids and development of surfaces.	K2
			C106.5	Visualize and to project isometric and perspective sections of simple solids.	K2
7	I-YEAR I-SEM	GE8161-Problem Solving And Python Programming Laboratory	C107.1	Write, test, and debug simple Python programs.	K6
			C107.2	Implement Python programs with conditionals and loops.	K6
			C107.3	Develop Python programs step-wise by defining functions and calling them.	K5
			C107.4	Use Python list Stuples, dictionaries for representing compound data.	K5
			C107.5	Read and write data from/to files in Python.	K5



8.A	I-YEAR I-SEM	BS8161-Physics And Chemistry Laboratory	C108.1	Understand the functioning of various physics laboratory equipment	K5
			C108.2	Use graphical models to analyze laboratory data	K5
			C108.3	Use mathematical models as a medium for quantitative reasoning And describing physical reality	K6
			C108.4	Access, process and analyze scientific information	K4
			C108.5	Solve problems individually and collaboratively	K5
8.B	I-YEAR I-SEM	BS8161-Physics And Chemistry Laboratory	C108.1	To analyze the quality of water samples with respect to their acidity, alkalinity, hardness and DO	K6
			C108.2	To determine the amount of metal ions Through volumetric and spectroscopic techniques	K4
			C108.3	To analyze and determine the composition of alloys	K5
			C108.4	To learn simple method of synthesis of nano particles	K5
			C108.5	To quantitatively analyze the impurities in solution by electro Analytical techniques	K6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME: MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2019-2020	SEMESTER: II
---	--------------------	------------------------------------	---------------------

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	I-YEAR II-SEM	HS8251- Technical English	C201.1	Read technical texts and write area-specific texts effortlessly.	K5
			C201.2	Listen and comprehend lectures and talks in there area of specialization successfully	K3
			C201.3	Speak appropriately and effectively in varied formal and informal contexts.	K6
			C201.4	Write reports and winning job applications.	K4
2	I-YEAR II-SEM	MA8251- Engineering Mathematics–II	C202.1	Eigen values and eigenvectors, diagonalization of a matrix ,Symmetric matrices ,Positive definite matrices and similar matrices.	K6
			C202.2	Gradient , divergence and curl of a vector point function and relate did entities.	K5
			C202.3	Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.	K5
			C202.4	Analytic functions, conformal mapping and complex integration.	K5
			C202.5	Laplace transform and inverse transform of simple functions, properties ,various related theorems and application to differential equations with constant coefficients.	K4



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

3	I-YEAR II-SEM	PH8251 –Materials Science	C203.1	The students will have knowledge on the various phase diagrams and their applications	K5
			C203.2	The students will acquire knowledge on Fe-Fe ₃ C phase diagram, various microstructures and alloys	K6
			C203.3	The students will get knowledge on mechanical properties of materials and their measurement	K5
			C203.4	The students will gain knowledge on magnetic, dielectric and superconducting properties of materials	K2
			C203.5	The students will understand the basics of ceramics, composite and nano materials.	K2
4	I-YEAR II-SEM	BE8253- Basic Electrical, Electronics And Instrumentation Engineering	C204.1	Understand electric circuits and working principles of electrical machines	K1
			C204.2	Understand the concepts of various electronic devices	K3
			C204.3	Choose appropriate instruments for electrical measurement for a specific application	K3
			C204.4	Explain the basic concepts of digital electronics	K3
			C204.5	Explain the operating principles of measuring instruments	K2
5	I-YEAR II-SEM	GE8291- Environmental Science And Engineering	C205.1	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course.	K6
			C205.2	Public awareness of environmental is at infant stage.	K5
			C205.3	Ignorance and incomplete knowledge has lead to misconceptions	K5
			C205.4	Development and improvement in std. of living has lead to serious environmental disasters	K6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

6	I-YEAR II-SEM	GE8292- Engineering Mechanics	C206.1	Illustrate the vectorial and scalar representation of forces and moments Analyze the rigid body in equilibrium	K5
			C206.2	Evaluate the properties of surfaces and solids	K5
			C206.3	Calculate dynamic forces exerted in rigid body	K5
			C206.4	Determine the friction and the effects by the laws of friction	K5
7	I-YEAR II-SEM	BE8261- Basic Electrical, Electronics And Instrumentation Engineering Laboratory	C207.1	Ability to determine the speed characteristic of different electrical machines	K6
			C207.2	Ability to design simple circuits involving diodes and transistors	K5
			C207.3	Ability to use operational amplifiers	K5
8	I-YEAR II-SEM	GE8261- Engineering Practices Laboratory	C208.1	Fabricate carpentry components and pipe connections including plumbing works.	K6
			C208.2	Use welding equipment's to join the structures.	K6
			C208.3	Carryout the basic machining operations	K1
			C208.4	Make the models using sheet metal works	K6
			C208.5	Illustrate on centrifugal pump, Air conditioner, operation of smithy, foundry and fittings	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME: MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2020-2021	SEMESTER: III
--	--------------------	---------------------------------	----------------------

S L . NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	II-YEAR III-SEM	MA8353- Transforms And Partial Differential Equations	C301.1	Understand how to solve the given standard partial differential equations.	K3
			C301.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.	K3
			C301.3	Appreciate the physical significance of Fourier series techniques in solving one-and two-dimensional heat flow problems and one-dimensional wave equations.	K6
			C301.4	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.	K5
			C301.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems	K6
2	II-YEAR III-SEM	ME8391 – Engineering Thermodynamics	C302.1	Apply the first law of thermodynamics for simple open and closed systems under steady And unsteady conditions	K6
			C302.2	Apply second law of thermodynamics to open and closed systems and calculate entropy and availability	K5
			C302.3	Apply Rankine cycle to steam power plant and compare few cycle improvement methods	K4
			C302.4	Derive simple thermodynamic relations of ideal and real gases	K4
				Calculate the properties of gas mixtures and	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

			C302.5	moist air and its use in psychometric processes	
3	II-YEAR III-SEM	CE8394- Fluid Mechanics And Machinery	C303.1	Apply mathematical knowledge to predict the properties and characteristics of a fluid.	K4
			C303.2	Can analyse and calculate major and minor losses associated with pipe flow in piping networks.	K4
			C303.3	Can mathematically predict the nature of physical quantities	K4
			C303.4	Can critically analyse the performance of pumps	K5
			C303.5	Can critically analyse the performance of turbines.	K5
4	II-YEAR III-SEM	ME8351- Manufacturing Technology–I	C304.1	Explain different metal casting processes ,associated defects, merits and demerits	K3
			C304.2	Compare different metal joining processes.	K3
			C304.3	Summarize various hot working and cold working methods of metals.	K3
			C304.4	Explain various sheet metal making processes.	K2
			C304.5	Distinguish various methods of manufacturing plastic components.	K2
5	II-YEAR III-SEM	EE8353- Electrical Drives And Controls	C305.1	Upon Completion of this subject, the students can able to explain different types of electrical machines and their performance	K3
6	II-YEAR III-SEM	ME8361- Manufacturing Technology Laboratory–I	C306.1	Demonstrate the safety precautions exercised in the mechanical workshop.	K3
			C306.2	Make the workpiece as per given shape and size using Lathe.	K3
			C306.3	Join two metals using arc welding.	K3
			C306.4	Use sheet metal fabrication tools and make simple tray and funnel.	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

7	II-YEAR III-SEM	ME8381- Computer Aided Machine drawing	C307. 1	Follow the drawing standards, Fits and Tolerances	K1
			C307. 2	Re-create part drawings, sectional views and assembly drawings as per standards	K1
			C307. 3	Prepare standard drawing layout for model led parts	K1
8	II-YEAR III-SEM	ME8361- Electrical Engineering Laboratory	C308. 1	Ability to perform speed characteristic of different electrical machine	K2
			C308. 2	Upon Completion of this subject ,the students can able to explain different types of electrical machines and their performance	K2
9	II-YEAR III-SEM	HS8381- Interpersonal Skills/Listening& Speaking	C309. 1	Listen and respond appropriately.	K5
			C309.2	Participate in group discussions	K5
			C309.3	Make effective presentations	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME:MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 2020-2021	SEMESTER: IV
---	------------------------	-------------------------------------	---------------------

SL. NO	YEAR/ SEM	COURSENAME	COURSEOUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	II-YEAR IV-SEM	MA8452- Statistics And Numerical Methods	C401.1	Apply the concept of testing of hypo thesis for small and large samples in real life problems.	K1
			C401.2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.	K2
			C401.3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.	K1
			C401.4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	K2
			C401.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications	K3
2	II-YEAR IV-SEM	ME8492- Kinematics Of Machinery	C402.1	Discuss the basics of mechanism	K3
			C402.2	Calculate velocity and acceleration in simple mechanisms	K1
			C402.3	Develop CAM profiles	K1
			C402.4	Solve problems on gears and gear trains	K1
			C402.5	Examine friction in machine elements	K2



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

3	II-YEAR IV-SEM	ME8451- Manufacturing Technology–II	C403.1	Explain the mechanism of material removal processes.	K5
			C403.2	Describe the constructional and operational features of center lathe and other special Purpose lathes.	K4
			C403.3	Describe the constructional and operational features of shaper ,planner ,milling ,drilling, Sawing and broaching machines.	K4
			C403.4	Explain the types of grinding and other super finishing processes a part from gear Manufacturing processes.	K2
			C403.5	Summarize numerical control of machine tools and write apart program.	K2
4	II-YEAR IV-SEM	ME8491- Engineering Metallurgy	C404.1	Explain alloys and phase diagram, Iron-Iron carbon diagram and steel classification.	K3
			C404.2	Explain isothermal transformation, continuous cooling diagrams and different heat treatment processes.	K3
			C404.3	Clarify the effect of alloying elements on ferrous and non-ferrous metals	K4
			C404.4	Summarize the properties and applications of nonmetallic materials.	K5
			C404.5	Explain the testing of mechanical properties..	K5
5	II-YEAR IV-SEM	CE8395- Strength Of Materials For Mechanical Engineers	C405.1	Understand the concepts of stress and strain in simple and compound bars , the importance of principals tresses and principal planes.	K1
			C405.2	Understand the load transferring mechanism in beams and stress distribution due to shearing force and bending moment.	K2
			C405.3	Apply basic equation of simple torsion in designing of shafts and helical spring	K2
			C405.4	Calculate the slope and deflection in beams using different methods.	K3
			C405.5	Analyze and design thin and thick shells for the applied internal and external pressures.	K3
			C406.1	Apply thermodynamic concepts to different air standard cycles and solve problems.	K2
			C406.2	Solve problems in single stage and multistage air compressors	K2



6	II-YEAR IV-SEM	ME8493- Thermal engineering-I	C406.3	Explain the functioning and features of IC engines ,components and auxiliaries.	K2
			C406.4	Calculate performance parameters of IC Engines.	K2
			C406.5	Explain the flow in Gas turbines and solve problems.	K2
7	II-YEAR IV-SEM	CE8381- Strength Of Materials And Fluid Mechanics And Machinery Laboratory	C407.1	Perform Tension, Torsion, Hardness, Compression ,and Deformation test on Solid materials.	K5
			C407.2	Use the measurement equipment's for flow measurement.	K2
			C407.3	Perform test on different fluid machinery.	K4
			C407.4	Apply the fluid static and moment um principles to determine the meta centric height and forces due to impact of jet	K6
			C407.5	Determine the performance characteristics of turbine ,rotor dynamic pump and positive displacement pump	K6
8	II-YEAR IV-SEM	ME8462- Manufacturing Technology Laboratory-II	C408.1	Use different machine tools to manufacturing gears	K1
			C408.2	Ability to use different machine tools to manufacturing gears.	K1
			C408.3	Ability to use different machine tools for finishing operations	K2
9	II-YEAR IV-SEM	HS8461-Advanced Reading And Writing	C409.1	Write different types of essays.	K5
			C409.2	Write winning job applications.	K5
			C409.3	Read and evaluate texts critically.	K6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME:MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR :2021-2022	SEMESTER: V
-------------------------------------	----------------	-----------------------------	-------------

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	III-YEAR V-SEM	ME8595 Thermal Engineering–II	C501.1	Solve problems in Steam Nozzle	K1
			C501.2	Explain the functioning and features of different types of Boilers and auxiliaries and calculate performance parameters.	K3
			C501.3	Explain the flow in steam turbines ,draw velocity diagrams for steam turbines and solve problems.	K2
			C501.4	Summarize the concept of Co generation ,Working features of Heat pumps and Heat exchangers	K2
			C501.5	Solve problems using refrigerant table/charts and psychrometric charts	K3
2	III-YEAR V-SEM	ME8593- Design Of Machine Elements	C502.1	Explain the influence of steady and variable stresses in machine component design.	K3
			C502.2	Apply the concepts of design to shafts ,keys and couplings.	K2
			C502.3	Apply the concepts of design to temporary and permanent joints. Apply the concepts of design to energy absorbing members, connecting rod and crankshaft.	K2
			C502.4	Apply the concepts of design to bearings.	K2
			C502.5	Explain the influence of steady and variable stresses in machine component design.	K3
3	III-YEAR V-SEM	ME8501- Metrology And Measurements	C503.1	Describe the concepts of measurements to apply in various metrological instruments	K1
			C503.2	Outline the principles of linear and angular measurement tools used for industrial applications	K2
			C503.3	Explain the procedure for conducting computer aided inspection	K2



			C503.4	Demonstrate the techniques of form measurement used for industrial components	K5
			C503.5	Discuss various measuring techniques of mechanical properties in industrial applications	K5
4	III-YEAR V-SEM	ME8594- Dynamics Of Machines	C504.1	Calculate static and dynamic forces of mechanisms.	K1
			C504.2	Calculate the balancing masses and their locations of reciprocating and rotating masses.	K2
			C504.3	Compute the frequency of free vibration.	K2
			C504.4	Compute the frequency of forced vibration and damping coefficient.	K1
5	III-YEAR V-SEM	ORO551- Renewable Energy Sources	C505.1	Understanding The Physics Of Solar Radiation.	K4
			C505.2	Ability To Classify The Solar Energy Collectors And Methodologies Of Storing Solar Energy	K4
			C505.3	Knowledge In Applying Solar Energy In A Useful Way.	K6
			C505.4	Knowledge In Wind Energy And Biomass With Its Economic Aspects.	K4
			C505.5	Knowledge In Capturing And Applying Other Forms Of Energy Sources Like Wind, Biogas And Geothermal Energies.	
6	III-YEAR V-SEM	ME8511- Kinematics And Dynamics Laboratory	C506.1	Explain gear parameters ,kinematics of mechanisms ,gyroscopic effect and working flab equipment's.	K1
			C506.2	Determine mass moment of inertia of mechanical element ,governor effort and range sensitivity ,natural frequency and damping coefficient , torsional frequency , critical speeds of shafts, balancing mass of rotating and reciprocating masses , and transmissibility ratio.	K5
	III-YEAR V-SEM	ME8513- Metrology And Measurements Laboratory	C507.1	Measure the gear tooth dimensions ,angle using sine bar , straightness and flatness, Thread parameters ,temperature using thermo couple ,force ,displacement ,torque and vibration.	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

7			C507.2	Calibrate the vernier ,micrometer and slip gauges and setting up the comparator for the Inspection.	K6
8	III-YEAR V-SEM	ME8512- Thermal Engineering Laboratory	C508.1	Conduct tests on heat conduction apparatus and evaluate thermal conductivity of materials.	K4
			C508.2	Conduct test son natural and forced convective heat transfer apparatus and evaluate heat transfer coefficient.	K4
			C508.3	Conduct tests to evaluate the performance of parallel /counter flow heat exchanger Apparatus and reciprocating air compressor.	K5
			C508.4	Conduct tests to evaluate the performance of refrigeration and air conditioning test rigs.	K5



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME: MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR: 202 1-2022	SEMESTER: VI
---	-----------------------	-------------------------------------	---------------------

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	III-YEAR VI-SEM	ME8651- Design Of Transmission Systems	C601.1	Apply the concepts of design to belts ,chains and rope drives.	K1
			C601.2	Apply the concepts of design to spur ,helical gears.	K3
			C601.3	Apply the concepts of design to worm and bevel gears. Apply the concepts of design to gearboxes.	K3
			C601.4	apply the concepts of design to cams , brakes and clutches	K2
			C601.5	Apply the concepts of design to belts ,chains and rope drives.	K3
2	III-YEAR VI-SEM	ME-8691 Computer Aided Design & Manufacturing	C602.1	Explain the 2D and 3D transformations, clipping algorithm, Manufacturing models and Metrics	K5
			C602.2	Explain the fundamentals of parametric curves, surfaces and Solids	K5
			C602.3	Summarize the different types of Standard systems use in CAD	K5
			C602.4	Apply NC & CNC programming concepts to develop part program me for Lathe & Milling Machines	K5
			C602.5	Summarize the different types of techniques used in Cellular Manufacturing and FMS	K5
3	III-YEAR VI-SEM	ME-8693 Heat &Mass Transfer	C603.1	Apply heat conduction equations to different surface configurations under steady state and transient conditions and solve problems	K1
			C603.2	Apply free and forced convective heat transfer correlations to internal and external Flows through/ over various surface configurations and solve problems	K3
			C603.3	Explain the phenomena of boiling and condensation , apply LMTD and NTU methods of thermal analysis to different types of heat exchanger configurations and solve problems	K3



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

			C603.4	Explain basic laws for Radiation and apply these principles to radiative heat transfer Between different types of surfaces to solve problems	K2
			C603.5	Apply diffusive and convective mass transfer equations and correlations to solve Problems for different applications	K2
4	III-YEAR VI-SEM	ME-8692 Finite Element Analysis	C604.1	Summarize the basics of finite element formulation.	K2
			C604.2	Apply finite element formulations to solve one dimensional Problems.	K2
			C604.3	Apply finite element formulations to solve two dimensional scalar Problems.	K1
			C604.4	Apply finite element method to solve two dimensional Vector problems.	K1
			C604.5	Apply finite element method to solve problems on is parametric element and dynamic Problems.	K1
5	III-YEAR VI-SEM	ME-8694 Hydraulics And Pneumatics	C605.1	Explain the Fluid power and operation of different types of pumps.	K1
			C605.2	Summarize the features and functions of Hydraulic motors, actuators and Flow control valves	K3
			C605.3	Explain the different types of Hydraulic circuits and systems	K4
			C605.4	Explain the working of different pneumatic circuits and systems	K4
			C605.5	Summarize the various troubles hooting methods and applications of hydraulic and pneumatic systems.	K3
6	III-YEAR VI-SEM	ME8091-Automobile Engineering	C606.1	Understand the construction and working principles of gas and arc welding process.	K3
			C606.2	Understand the construction and working principles of resistance welding process.	K4
			C606.3	Understand the construction and working principles of various solid states welding process.	K6
			C606.4	Understand the construction and working principles of various special welding processes.	K6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

			C606.5	Understand the concept son weld joint design, weld ability and testing of weldment.	K4
7	III-YEAR VI-SEM	ME-8681 Cad/Cam Laboratory	C607.1	Design experience in handling 2D drafting and 3D modeling software systems	K1
			C607.2	Draw 3D and Assembly drawing using CAD software	K1
			C607.3	Demonstrate manual part programming with G and M codes using CAM	K1
8	III-YEAR VI-SEM	ME-8682 Design And Fabrication Project	C608.1	Design and Fabricate the machine element or the mechanical product.	K1
			C608.2	Demonstrate the working model of the machine element or the mechanical product.	K1
9	III-YEAR VI-SEM	HS-8581 Professional Communication	C609.1	Make effective presentations	K5
			C609.2	Participate confidently in Group Discussions.	K5
			C609.3	Attend job inter views and be successful in them.	K6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME:MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR:202 2-2023	SEMESTER: VII
---	------------------------	-------------------------------------	----------------------

SL. NO	YEAR/ SEM	COURSE NAME	COURSE OUTCOMES The students will be able to understand the		KNOWLEDGE LEVEL
1	IV-YEAR VII-SEM	ME-8792 Power Plant Engineering	C701.1	Explain the layout ,construction and working of the components inside a thermal power plant.	K5
			C701.2	Explain the layout ,construction and working of the components inside a Diesel ,Gas and Combined cycle power plants.	K4
			C701.3	Explain the layout ,construction and working of the components inside nuclear power plants.	K4
			C701.4	Explain the layout ,construction and working of the components inside Renewable energy power plants.	K3
			C701.5	Explain the applications of power plants while extend their knowledge to power plant economics and environmental hazards and estimate the costs of electrical energy production.	K3
2	IV-YEAR VII-SEM	ME-8793 Process Planning & Cost Estimation	C702.1	Select the process ,equipment and tools for various industrial products.	K2
			C702.2	Prepare process planning activity chart.	K3
			C702.3	Explain the concept of cost estimation.	K3
			C702.4	Compute the job order cost for different type of shop floor.	K2
			C702.5	Calculate the machining time for various machining operations.	K2
3	IV-YEAR VII-SEM	ME-8791 Mechatronics	C703.1	Discuss the inter disciplinary applications of Electronics ,Electrical ,Mechanical and Computer Systems for the Control of Mechanical ,Electronic Systems and sensor technology.	K1
			C703.2	Discuss the architecture of Micro process or and Microcontroller ,Pin Diagram, Addressing Modes of Micro process or and Micro controller.	K1



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

			C703.3	Discuss Programmable Peripheral Interface ,Architecture of 8255PPI, and various device Interfacing	K2
			C703.4	Explain the architecture ,programming and application of programmable logic controllers to problems and challenges in the areas of Mechatronic engineering.	K2
			C703.5	Discuss various Actuators and Mechatronics system using the knowledge and skills Acquired through the course and also from the given case studies	K1
4	IV-YEAR VII-SEM	ME-8073 Unconventional Machining Processes	C704.1	Explain the need for unconventional machining processes and its classification	K5
			C704.2	Compare various thermal energy and electrical energy based unconventional Machining processes.	K5
			C704.3	Summarize various chemical and electro-chemical energy base dun conventional machining processes.	K6
			C704.4	Explain various Nano abrasives base dun conventional machining processes.	K5
			C704.5	Distinguish various recent trends base dun conventional machining processes.	K5
5	IV-YEAR VII-SEM	OMF-751 Lean Six Sigma	C705.1	The student would be able to relate the tools and techniques of lean sigma to increase productivity	K5
6	IV-YEAR VII-SEM	ME-8097 Non Destructive Testing and Evaluation	C706.1	Explain the fundamental concepts of NDT	K4
			C706.2	Discuss the different methods of NDE	K3
			C706.3	Explain the concept of Thermography and Eddy current testing	K3
			C606.4	Explain the concept of Ultrasonic Testing and Acoustic Emission	K4
			C706.5	Explain the concept of Radiography	K3
7	IV-YEAR VII-SEM	ME-8711 Simulation &Analysis Laboratory	C707.1	Simulate the working principle of air conditioning system, hydraulic and pneumatic cylinder and cam follower mechanisms using MAT LAB.	K1
			C707.2	analyze the stresses and strains induced in plates , brackets and beams and heat transfer	K1



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

8	IV-YEAR VII-SEM	ME-8781 Mechatronics Laboratory		Problems.	
			C707.3	Calculate the natural frequency and mode shape analysis of 2D components and beams.	K1
			C708.1	Demonstrate the functioning of mechatronics system with various pneumatic ,hydraulic and electrical systems.	K2
			C708.2	Demonstrate the functioning of control systems with the help of PLC and micro controllers.	K2



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

PROGRAMME:MECHANICAL ENGINEERING	DEGREE: U.G	ACADEMIC YEAR:202 2-2023	SEMESTER: VIII
---	------------------------	-------------------------------------	-----------------------

1	IV-YEAR VIII-SEM	MG-8591 Principles Of Management	C801.1	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling and have same basic knowledge on international aspect of management	K2
2	IV-YEAR VIII-SEM	IE-8693 Production Planning And Control	C802.1	Upon completion of this course ,the students can able to prepare production planning and control activities such as work study, product planning, production scheduling, Inventory Control.	K2
			C802.2	They can plan manufacturing requirements manufacturing requirement Planning (MRP II) and Enterprise Resource Planning(ERP).	K3
3	IV-YEAR VIII-SEM	ME-8811 Project Work	C803.1	On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.	K1



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

HS8151- COMMUNICATION ENGLISH

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	1	1	1	3	3	3	1	-	-	-	-	-	-
2	1	1	1	1	1	3	3	3	1	-	-	-	-	-	-
3	2	3	2	3	2	3	3	3	2	-	-	-	-	-	-
4	2	3	2	3	2	3	3	3	2	-	-	-	-	-	-
5	2	3	3	3	-	3	3	3	2	-	-	-	-	-	-
AVg	1.6	2.2	1.8	2.2	1.5	3	3	3	1.6	-	-	-	-	-	-

MA8151-ENGINEERING MATHEMATICS -1

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-
2	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-
3	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-
4	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-
5	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-
AVg	3	3	1	1	0	0	0	0	2	-	-	-	-	-	-

PH8151-ENGINEERING PHYSICS

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	1	1	1	-	-	-	-	-	-	-	-	-
2	3	3	2	1	2	1	-	-	-	-	-	-	-	-	-
3	3	3	2	2	2	1	-	-	-	-	-	-	-	-	-
4	3	3	1	1	2	1	-	-	-	-	-	-	-	-	-
5	3	3	1	1	2	1	-	-	-	-	-	-	-	-	-
AVg	3	3	1.6	1.2	1.8	1	-	-	-	-	-	-	-	-	-

CY8151-ENGINEERING CHEMISTRY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	1	-	1	1	-	-	-	-	-	-	-	-
2	2	-	-	1	-	2	2	-	-	-	-	-	-	-	-
3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4	3	1	1	-	-	1	2	-	-	-	-	-	-	-	-
5	3	1	2	1	-	2	2	-	-	-	-	-	-	-	-
AVg	2.8	1.3	1.6	1	-	1.5	1.8	-	-	-	-	-	-	-	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

GE8151-PROBLEMSOLVINGANDPYTHONPROGRAMMING															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	-	-	-	-	-	-	-	3	3	3
2	3	3	3	3	2	-	-	-	-	-	-	-	3	-	-
3	3	3	3	3	2	-	-	-	-	-	-	-	3	-	-
4	2	2	-	2	2	-	-	-	-	-	-	-	3	-	-
5	1	2	-	-	1	-	-	-	-	-	-	-	2	-	2
6	2	2	-	-	2	-	-	-	-	-	-	-	2	-	-
AVg	2	3	3	3	2	-	-	-	-	-	-	-	3	3	1

GE3251-ENGINEERINGGRAPHICS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-
2	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-
3	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-
4	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-
5	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-
AVg	3	1	2	-	2	-	-	-	-	-	-	-	2	2	-

BS8171-PHYSICSANDCHEMISTRYLABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
2	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
3	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
4	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-
5	3	2	3	1	1	-	-	-	-	-	-	-	-	-	-
AVg	3	2.4	2.6	1	1										

GE8171- PROBLEMSOLVINGANDPYTHONPROGRAMMING LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-
2	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-
3	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-
4	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-
5	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-
AVg.	3	3	3	3	1	3	3	3	3	-	-	-	-	-	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

HS8251-TECHNICAL ENGLISH

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	3	3	3	3	2	-	-	-	-	-	-
2	3	3	3	3	3	3	3	3	2	-	-	-	-	-	-
3	3	3	3	3	3	3	3	3	2	-	-	-	-	-	-
4	3	3	3	3	2	3	3	3	2	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
Avg.	3	3	3	3	2.75	3	3	3	2.2	-	-	-	-	-	-

MA8251- ENGINEERING MATHEMATICS -II

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
2	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
3	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
4	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
5	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
Avg	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-

PH8251-MATERIALSSCIENCE

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-
2	3	2	1	2	-	2	-	-	-	-	-	-	-	-	-
3	3	2	2	-	2	-	-	-	-	-	-	-	-	-	-
4	3	-	1	-	3	2	3	-	-	-	-	-	-	-	-
5	3	-	2	1	-	2	-	-	-	-	-	-	-	-	-
Avg	3	2	1.4	1.5	2.5	2	3	-	-	-	-	-	-	-	-

BE8253-BASICELECTRICALELANDELECTRONICS INSTRUMENTATION ENGINEERING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-
2	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-
3	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-
4	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-
5	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-
Avg	2	1	1	-	-	-	-	1	-	-	-	-	-	-	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

GE8291-ENVIRONMENTAL SCIENCES AND ENGINEERING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	1	-	-	-	2	3	-	-	-	-	-	-	-	-
2	3	2	-	-	-	3	3	-	-	-	-	-	-	-	-
3	3	-	1	-	-	2	2	-	-	-	-	-	-	-	-
4	3	2	1	1	-	2	2	-	-	-	-	-	-	-	-
5	3	2	1	-	-	2	2	-	-	-	-	-	-	-	-
Avg.	2.8	1.8	1	1	-	2.2	2.4	-	-	-	-	-	-	-	-

GE8292- ENGINEERING MECHANICS

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	1	2	-	-	-	-	-	-	-	3	1	1
2	3	2	2	1	2	-	-	-	-	-	-	-	3	1	1
3	3	2	3	1	2	-	-	-	-	-	-	-	3	1	2
4	3	2	3	1	2	-	-	-	-	-	-	-	3	1	2
5	3	2	3	1	2	-	-	-	-	-	-	-	3	1	2
AVg	3	2	2.6	1	2	-	-	-	-	-	-	-	3	1	1.6

GE8261-ENGINEERING PRACTICES LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	-	-	1	1	1	-	-	-	-	-	2	1	1
2	3	2	-	-	1	1	1	-	-	-	-	-	2	1	1
3	3	2	-	-	1	1	1	-	-	-	-	-	2	1	1
AVg	3	2	-	-	1	1	1	-	-	-	-	-	2	1	1

BE8261- BASIC ELECTRICAL AND ELECTRONICS & INSTRUMENTATION ENGINEERING LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	-	-	-	1	-	-	-	-	-	-	-
2	3	3	2	2	-	-	-	1	-	-	-	-	-	-	-
3	3	3	3	3	-	-	-	1	-	-	-	-	-	-	-
4	3	3	3	3	-	-	-	1	-	-	-	-	-	-	-
5	3	3	3	2	-	-	-	1	-	-	-	-	-	-	-
AVg	3	3	3	2	-	-	-	1	-	-	-	-	-	-	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

MA8353- TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-
2	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-
3	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-
4	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-
5	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-
AVg	3	3	-	-	-	-	-	-	3	-	-	-	-	-	-

ME8391- ENGINEERING THERMODYNAMICS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
2	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
3	3	3	2	1	-	-	-	-	1	-	-	-	3	-	3
4	3	3	2	1	-	1	-	-	2	-	-	-	3	2	-
5	3	3	2	1	-	1	-	-	2	-	-	-	3	2	3
AVg	3	3	2	1	-	0.4	-	-	1	-	-	-	1.8	0.8	1.2

CE8394- FLUID MECHANICS AND MACHINERY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	2	1	2	2	1	2	-	-	-	3	2	3
2	3	3	3	2	1	2	2	1	2	-	-	-	3	2	3
3	3	3	3	3	1	2	2	1	2	-	-	-	3	3	3
4	3	3	3	3	1	2	2	1	2	-	-	-	3	2	2
5	3	3	3	3	1	2	2	1	2	-	-	-	3	2	2
AVg	3	3	2.8	2.6	1	2	2	1	2	-	-	-	3	2.2	2.6



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

EE8353-ELECTRICAL DRIVES AND CONTROLS

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	2	3	4	5	6	7	8	9	-	-	-	1	2	3
2	3	1	3	2	-	-	-	-	-	-	-	-	2	1	2
3	3	1	3	1	-	2	-	1	-	-	-	-	2	1	2
4	3	1	3	-	-	-	-	-	-	-	-	-	2	1	2
5	3	1	3	-	-	-	2	-	-	-	-	-	2	1	2
AVg	2.6	1.2	3	1.4	1	1.6	1.8	1.8	1.8	-	-	-	1.8	1.2	2.2

ME8351-MANUFACTURING TECHNOLOGY - I

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	-	2	-	-	2	3	1	1	-	-	-	3	1	2
2	3	-	2	-	-	2	3	1	1	-	-	-	3	1	2
3	3	-	2	-	-	2	2	1	1	-	-	-	3	1	2
4	3	-	2	-	-	2	2	1	1	-	-	-	3	1	2
5	3	-	2	-	2	2	2	1	1	-	-	-	3	1	2
AVg	3	-	2	-	0.4	2	24	1	1	-	-	-	3	1	2

ME8381-COMPUTER AIDED MACHINE DRAWING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
2	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
3	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
AVg	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2

ME8382- MANUFACTURING TECHNOLOGY LABORATORY-I

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	-	-	-	-	-	1	-	2	-	-	-	1	2	2
2	3	-	-	-	-	-	1	-	2	-	-	-	1	2	2
3	3	-	-	-	-	-	1	-	2	-	-	-	1	2	2
AVg	3	-	-	-	-	-	1	-	2	-	-	-	1	2	2



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

EE8381- ELECTRICAL ENGINEERING LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	-	-	-	1	-	-	-	-	-	-	-
2	3	3	2	2	-	-	-	1	-	-	-	-	-	-	-
3	3	3	3	3	-	-	-	1	-	-	-	-	-	-	-
4	3	3	3	3	-	-	-	1	-	-	-	-	-	-	-
5	3	3	3	2	-	-	-	1	-	-	-	-	-	-	-
AVg	3	3	3	2	-	-	-	1	-	-	-	-	-	-	-

HS8381-INTERPERSONAL SKILLS/ LISTENING & SPEAKING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	3	3	1	3	3	3	3	-	-	-	-	-	-
2	2	3	3	3	1	3	3	3	3	-	-	-	-	-	-
3	2	2	3	3	1	3	3	3	3	-	-	-	-	-	-
4	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-
5	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-
AVg	2.4	2.8	3	3	1.8	3	3	3	3	-	-	-	-	-	-

MA8452- STATISTICS AND NUMERICAL METHODS

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
2	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
3	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
4	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
5	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-
AVg	3	3	1	1	1	0	0	0	2	-	-	-	-	-	-

ME8492- KINEMATICS OF MACHINERY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-
2	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-
3	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-
4	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-
5	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-
AVg	3	2	2	-	2	-	-	1	-	-	-	-	1	-	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

CE8381- STRENGTH OF MATERIALS AND FLUID MECHANICS & MACHINERY LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
2	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
3	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2
AVg	1	2	-	-	3	-	-	-	3	-	-	-	2	2	2

ME8462- MANUFACTURING TECHNOLOGY LABORATORY - II

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	1	1	-	-	-	-	1	-	-	-	1	1	1
2	2	2	1	1	-	-	-	-	1	-	-	-	1	1	1
3	2	2	1	1	-	-	-	-	1	-	-	-	1	1	1
AVg	2	2	1	1	-	-	-	-	1	-	-	-	1	1	1

HS8461 ADVANCED READING AND WRITING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	3	3	3	1	3	3	3	3	-	-	-	-	-	-
2	2	3	3	3	1	3	3	3	3	-	-	-	-	-	-
3	2	2	3	3	1	3	3	3	3	-	-	-	-	-	-
4	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-
5	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-
AVg	2.4	2.8	3	3	1.8	3	3	3	3	-	-	-	-	-	-

ME8595- THERMAL ENGINEERING - II

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
2	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
3	3	3	2	1	-	-	-	-	1	-	-	-	3	-	3
4	3	3	2	1	-	1	-	-	2	-	-	-	3	2	-
5	3	3	2	1	-	1	-	-	2	-	-	-	3	2	3
AVg	3	3	2	1	-	0.4	-	-	1	-	-	-	1.8	0.8	1.2



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

ME8512- THERMAL ENGINEERING LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	1	-	1	3	-	-	-	-	-	-	-	-
2	3	1	1	1	-	1	3	-	-	-	-	-	-	-	-
3	3	1	1	1	-	1	3	-	-	-	-	-	-	-	-
4	3	1	1	1	-	1	3	-	-	-	-	-	-	-	-
5	3	1	1	1	-	1	3	-	-	-	-	-	-	-	-
AVg	3	1	2	1	-	1	3	-	-	-	-	-	-	-	-

ME8511-KINEMATICS AND DYNAMICS LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	3	-	2	2	-	1	2	-	-	-	-	-	-
2	2	2	3	-	2	2	-	1	2	-	-	-	-	-	-
3	2	2	3	-	2	2	-	1	2	-	-	-	-	-	-
AVg	2	2	3	-	2	2	-	1	2	-	-	-	-	-	-

ME8513- METROLOGY AND MEASUREMENTS LABORATORY															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	-	-	-	-	-	-	-	-	2	1	-
2	3	2	2	1	-	-	-	-	-	-	-	-	2	1	-
3	3	2	2	1	-	-	-	-	-	-	-	-	2	1	-
4	3	2	1	1	-	-	-	-	-	-	-	-	2	1	-
5	3	2	1	1	-	-	-	-	-	-	-	-	2	1	-
AVg	3	2	1	1	-	-	-	-	-	-	-	-	2	1	-

ME8651-DESIGN OF TRANSMISSION SYSTEMS															
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2
2	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2
3	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2
4	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2
5	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2
AVg	1	1	3	1	-	-	-	1	1	-	-	-	1	-	2



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

ME8091-AUTOMOBILE ENGINEERING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2
2	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2
3	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2
4	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2
5	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2
AVg	1	1	2	2	-	-	-	-	1	-	-	-	-	-	2

ME8682 – DESIGN AND FABRICATION PROJECT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	3	2	1	-	-	-	-	-	-	1	1	-
2	3	2	2	3	2	2	-	-	-	-	-	-	1	1	-
3	3	3	3	2	1	2	-	-	-	-	-	-	1	1	-
4	3	3	2	3	2	2	-	-	-	-	-	-	1	1	-
5	3	2	3	2	2	1	-	-	-	-	-	-	1	1	-
AVg	3	3	3	3	2	2	-	-	-	-	-	-	1	1	-

ME8681- CAD/CAMLABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2	2	2	2	3	-	-	-	2	-	-	-	1	2	-
2	2	2	2	2	3	-	-	-	2	-	-	-	1	2	-
3	2	2	2	2	3	-	-	-	2	-	-	-	1	2	-
AVg	2	2	2	2	3	-	-	-	2	-	-	-	1	2	-

HS8581- PROFESSIONAL COMMUNICATION

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	3	2	-	-	-	-	1	-	-	-	1	1	-
2	1	1	3	2	-	-	-	-	1	-	-	-	1	1	-
3	1	1	3	2	-	-	-	-	1	-	-	-	1	1	-
AVg	1	1	3	2	-	-	-	-	1	-	-	-	1	1	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

ME8792- POWER PLANT ENGINEERING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	1	-	1	3	-	-	-	-	-	1	1	-
2	3	1	1	1	-	1	3	-	-	-	-	-	1	1	-
3	3	1	1	1	-	1	3	-	-	-	-	-	1	1	-
4	3	1	1	1	-	1	3	-	-	-	-	-	1	1	-
5	3	1	1	1	-	1	3	-	-	-	-	-	1	1	-
AVg	3	1	2	1	-	1	3	-	-	-	-	-	1	1	-

ME8793 – PROCESS PLANNING AND COST ESTIMATION

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-
2	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-
3	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-
4	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-
5	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-
AVg	1	1	3	1	-	-	-	1	1	-	-	-	-	1	-

ME8791 - MECHATRONICS

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	2	1	1	1	-	-	-	-	-	-	-	-	1	-
2	3	3	3	1	2	-	-	-	1	-	-	-	-	1	-
3	3	1	2	1	2	-	2	-	-	-	-	-	-	1	-
4	3	3	3	3	3	-	-	-	3	-	-	-	-	1	-
5	3	3	3	3	3	-	2	-	3	-	-	-	-	1	-
AVg	3	2	2	2	2	-	1	-	1	-	-	-	-	1	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

ME8711- SIMULATION AND ANALYSIS LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	1	3	1	3	1	1	-	-	-	1	2	-
2	3	1	1	1	3	1	3	2	1	-	-	-	1	2	-
3	3	1	1	1	3	1	3	1	1	-	-	-	1	2	-
AVg	3	1	1	1	3	1	3	1	1	-	-	-	1	2	-

ME8711- SIMULATION AND ANALYSIS LABORATORY

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	1	3	1	-	3	3	-	-	-	1	-	-
2	3	3	3	1	2	-	1	3	3	-	-	-	1	-	-
3	3	3	3	1	2	1	1	3	3	-	-	-	1	-	-
AVg	3	3	3	1	3	1	-	3	3	-	-	-	1	-	-

ME8712- TECHNICAL SEMINAR

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1	-	1	-	-	3	-	-	1	-	-	-	1	2	2
AVg	1	-	1	-	-	3	-	-	1	-	-	-	1	2	2

MG8591- PRINCIPLES OF MANAGEMENT

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	-	-	2	2	2	-	-	-	1	-	-	-	2	1	-
2	1	1	2	2	2	-	-	-	1	-	-	-	2	1	-
3	1	-	1	2	2	-	-	-	1	-	-	-	2	1	-
4	1	-	1	2	2	-	-	-	1	-	-	-	2	1	-
5	-	-	1	2	2	-	-	-	1	-	-	-	2	1	-
AVg	1	1	1	2	2	-	-	-	1	-	-	-	2	1	-



NELLIANDAVAR

Institute of Technology



Approved by AICTE , New Delhi , Affiliated to Anna University , Chennai.

IE8693-PRODUCTION PLANNING AND CONTROL

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	1	1	1	-	1	3	-	-	-	-	-	-	1	-
2	3	1	1	1	-	1	3	-	-	-	-	-	-	1	-
3	3	1	1	1	-	1	3	-	-	-	-	-	-	1	-
4	3	1	1	1	-	1	3	-	-	-	-	-	-	1	-
5	3	1	1	1	-	1	3	-	-	-	-	-	-	1	-
AVg	3	1	2	1	-	1	3	-	-	-	-	-	-	1	-

ME8811- PROJECT WORK

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	1	3	3	1	2	-	-	-	1	-	2
AVG	3	3	3	2	1	3	3	1	2	-	-	-	1	-	2