

2012-2013

ELECTRICAL & ELECTRONICS

ACADEMIC YEAR 2012-2013

S1S2 EEE (2012 Batch)- 2008 Scheme

Sl no	Course code	Subject name	Staff handled
1	08.101	Engineering Maths	
2	08.102	Engineering Physics	
3	08.103	Engineering Chemistry	
4	08.104	Engineering Graphics	
5	08.105	Engineering Mechanics	
6	08.106	Basic Civil Engineering	
7	08.107	Basic Mechanical Engineering	
8	08.108	Basic Electrical and Electronics Engineering	
9	08.109	Basic Communication and Information Engineering	
10	08.110	Engineering Workshop	

COURSE OBJECTIVES AND COURSE OUTCOMES FOR

08.101: ENGINEERING MATHEMATICS I COURSE

Sl.	Course Objectives	Subject Learning Outcomes or
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No.		Course Outcomes
		On completion of course the students will be able to:
1	This course provides students an insight into the various applications of differentiation, partial differentiation techniques	At the end of the course, the students will be familiar with various concepts of calculus which are essential for engineering.
2	The methods for solving differential equations and the concept of linear algebra are also introduced as a part of this course.	They'll also become acquainted with the basic ideas of Laplace transforms and linear algebra
3	This course provides students an insight into the various applications of multiple integrals	
4	This course provides students an insight into the various applications of Laplace transforms.	
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**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.102: ENGINEERING PHYSICS COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	Dynamics of mechanical and electrical oscillation using Fourier series and integrals; time and	Solve for the solutions and describe the behavior of a damped and driven harmonic oscillator in both time and frequency

	frequency representations for driven damped oscillators, resonance; one-dimensional waves in classical mechanics and electromagnetism; normal modes.	domains. Damped and Forced Oscillations oscillating system problems.
2	The fundamental principles of photonics that complement the topics in the optics and laser courses and to help students develop problem-solving skills applicable to real-world photonics problems.	Define and explain the propagation of light in conducting and non-conducting media.
3	This course equip the students to assimilate engineering and technology through the exposure of fundamentals of Physics	Define and explain the physics governing laser behaviour and light matter interaction in conducting and non-conducting media.
4		Apply wave optics and diffraction theory to a range of problems
5		Explain and calculate the physical effects of acoustic reflections, absorption, scattering, diffusion, diffraction, and propagation losses.
6		Use advanced theoretical, numerical, and experimental techniques to model and analyze acoustical elements in musical instruments, the human voice, room acoustics, and audio.

**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.103: ENGINEERING CHEMISTRY COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
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		On completion of course the students will be able to:
1	To impart sound knowledge in the different fields of theoretical chemistry so as to apply it to the problems in engineering field.	The confidence level of students will be improved to tackle problems in engineering field related to chemical aspects.
2	To develop analytical capabilities of students so that they can characterize, transform and use materials in engineering and apply knowledge gained in solving related engineering problems.	The students gain capability in fabricating novel materials with properties that find various engineering applications
3	To acquire knowledge about desalination of brackish water and treatment of municipal water.	The students will be equipped to take up chemistry related topics as part of their project works during higher semesters of the course.
4	To gain the knowledge of conducting polymers, bio-degradable polymers and fibre reinforced plastics.	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
5	To understand mechanism of corrosion and preventive methods.	Substitute metals with conducting polymers and also produce cheaper biodegradable polymers to reduce environmental pollution. Design economically and new methods of synthesis nano materials.
6	To have an idea and knowledge about the Chemistry of Fuels.	Have the knowledge of converting solar energy into most needy electrical.

**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.104: ENGINEERING GRAPHICS COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
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		On completion of course the students will be able to:
1	Enable the students to effectively communicate graphic representation as per standards	Able to prepare the orthographic projections of points and straight lines placed in various quadrants
2	To develop imagination skill in students and represent them effectively in a paper	Demonstrate the ability to draw orthographic projections of various solids.
3	Learn to sketch and take field dimensions.	Ability to draw and interpret the sectioned views of solids
4	Learn to take data and transform it into graphic drawings.	Ability to draw the developments of various solids
5		Will be confident in preparing the isometric and perspective views of various solids.
6		Ability to draw the projections of intersection of solids and perform free hand sketching.

**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.105: ENGINEERING MECHANICS COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	To apply the principles of mechanics to practical engineering problems.	Understand the fundamental concepts of mechanics.

2	To identify appropriate structural system for studying a given problem and isolate it from its environment.	Students would be able to apply and demonstrate the concepts of resultant and equilibrium of force system.
	To develop simple mathematical model for engineering problems and carry out static analysis.	Students would be able to determine the properties of planes and solids.
4	To develop simple mathematical model for engineering problems and carry out static analysis.	Understand the concepts of moment of inertia.
5		Students would be able to apply fundamental concepts of dynamics to practical problems.
6		Understand the basic elements of vibration.

COURSE OBJECTIVES AND COURSE OUTCOMES FOR

08.106: BASIC CIVIL ENGINEERING COURSE

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	This course imparts to the students, the fundamentals of civil engineering and creates awareness on various issues related to our living environment and their remedies	At the end of the course, the students will be familiar with the different stages of building construction, various materials used for construction and environmental issues
2	To inculcate the essentials of civil engineering field to the students of all branches	The students will be able to illustrate the fundamental aspects of civil engineering
3	To provide the students an illustration of the significance of the	The students should able to plan a building

	civil engineering profession satisfying societal needs.	
4	To inculcate the essentials of civil engineering field to the students of all branches	Students will be able to explain about surveying for making horizontal and vertical measurements.
5	.	They will able to illustrate the uses of various building materials and construction of different components of a building.
6		The students will be able to illustrate the fundamental aspects of civil engineering

**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.107: BASIC MECHANICAL ENGINEERING COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	To expose the students to the thrust areas in Mechanical Engineering and their relevance by covering the fundamental concepts	The student will be able to understand the inter dependence of the thrust areas in Mechanical Engineering and their significance leading to the development of products, processes and systems.
2	This subject covers wide areas of Mechanical Engineering and is intended for exposing the students to the various theoretical and practical aspects of thermal engineering, fluid mechanics and machines, manufacturing and power transmission.	The student can able to understand the inter dependence of the thrust areas in Mechanical Engineering and their significance leading to the development of products and systems.

3		The students can able to understand working of automobiles.
4		Able to understand about various mechanical processes.
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**COURSE OBJECTIVES AND COURSE OUTCOME FOR
08.108 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING**

Sl. No.	Course Objectives	Course Outcomes
		On completion of course the students will be able to:
1	To understand the basic concepts of magnetic, AC & DC circuits	Students will be able to apply the knowledge of mathematics, science, engineering fundamentals and Electrical and Electronics Engineering for solving complex engineering problems.
2	To impart knowledge on rms, average values of ac waveforms.	Troubleshoot problems of various electric circuits.
3	To impart knowledge on constructional details, principle of operation of ELCB, MCB etc.	Enable to identify the working of various equipments of electronics.
4	To gain knowledge about the fundamentals of wiring and earthing	Perform the analysis and types of earthing.

5		To impart knowledge related to renewable energy sources and energy conservation issues, point towards sustainable development, though the Electrical engineering discipline.
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**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.109: BASIC COMMUNICATION AND INFORMATION ENGINEERING COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	To get basic idea about types, specification and common values of passive components.	Student can identify the active and passive electronic components.
2	To familiarise the working and characteristics of diodes transistors, MOSFET and some measuring instruments.	Student can setup simple circuits using diodes, transistors and other electronic components.
	To understand working of diodes in circuits and in rectifiers.	Student will get fundamental idea about basic communication and entertainment electronics.
4	To understand the concept of mobile networks.	Student will get fundamental idea about mobile operation.
5	To get basic idea about types, specification and common values of passive components.	Student will get fundamental idea about different electronic circuits.
6		Student can identify the active and passive electronic components.

**COURSE OBJECTIVES AND COURSE OUTCOMES FOR
08.110: ENGINEERING WORKSHOP COURSE**

Sl. No.	Course Objectives	Subject Learning Outcomes or Course Outcomes
		On completion of course the students will be able to:
1	The Engineering Workshop Practice for engineers is a training lab course spread over entire semester.	Student will be able to make various joints in the given object with the available work material.
2	The modules include training on different trades like Fitting, Carpentry, etc... which makes the students to learn how various joints are made using wood and other metal pieces.	Student will be able to know how much time a joint will take for the assessment of time
3	Familiarization of basic manufacturing hand tools and equipment like files, hacksaw, spanner chisel hammers, etc.	Knowledge achieved to explain the various manufacturing process in the basic mechanical engineering workshop sections-smithy, carpentry, assembling, welding etc.
4	Familiarization of various measuring devises like vernier height gauge, vernier caliper, micrometer, steel rule etc.	Identify the various hand tools used in the basic mechanical engineering workshop sections-smithy, carpentry, assembling, welding etc.
5		Able to choose different measuring devises according to the work.

6		Skill achieved to construct models by using basic mechanical workshop sections like welding, moulding, smithy, carpentry etc.
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