COURSE TITLE : BASIC MECHANICAL ENGINEERING LABORATARY
COURSE CODE : 2029
COURSE CATEGORY : B
PERIODS/ WEEK : 3
PERIODS/ SEMESTER : 45
CREDIT : 2

TIME SCHEDULE

MODULE	TOPIC	PERIODS
1	Study of tools & precision equipments. Plumbing tools.	9
2	Brazing and soldering practice	12
3	Study of pumps and I.C.Engines parts	12
4	Study of refrigeration and air conditioning parts	12
TOTAL		45

Course Distribution:

Module	Name of Module	Course Outcome no.	Total periods per semester		
			Instructional	Test	Total
1	Study of tools & precision equipments. Plumbing tools and practice	1 2 3	Theory : Practical :8	1	9
2	Brazing and soldering practice	4	Theory : Practical :11	1	12
3	Study of pumps and I.C.Engines parts	5 6	Theory : Practical :11	1	12
4	Study of refrigeration and air conditioning parts	7	Theory : Practical :11	1	12
Total periods per semester					45

COURSE OUTCOME :

sl.no.	sub	student will be able to
1	1	Understand the proper tools and equipments
	2	Understand the use of precision equipments & its measurements
	3	Comprehend the various plumbing tools & practice
	4	Understand the Brazing & soldering processes.
	5	Appreciate the parts of Centrifugal & Reciprocating pumps.
	6	Comprehend the main components of petrol & diesel engines.
	7	Understand the components of refrigerator and air conditioners.

Remarks based on feedback from students, faculty, industry (revision 2010):

CONTENT DETAILS

MODULE I

Understand the proper tools and equipments
Identify the required tools from a given number of tools
Select particular tool for a specified operation
Locate the functional part of equipments and tools
Explain the use of tools and equipments
Understand the use of precision equipments & its measurements.
Vernier Caliper, Micrometers, depth gauges etc
Practice measurements on Vernier Caliper, Micrometers, depth gauges etc
Comprehend the various plumbing tools & practice
Pipe vice, Pipe Wrench, chain wrench, pipe bending machine, pipe cutter etc.
Plumbing practice.

MODULE II

Understand the Brazing & soldering processes
Metal joining Processes
Study of various tools and equipments used in Brazing & soldering processes
Practice on brazing & soldering

MODULE III

Appreciate the parts of Centrifugal & Reciprocating pumps
Classification of Water Pumps
Positive Displacement – Rotodynamic – Miscellaneous

Comprehend the main components of petrol & diesel engines
Classification of IC Engines – Systems in IC Engines
Working of Petrol & Diesel Engines – Comparison - Main parts

MODULE IV

Understand the components of refrigerator and air conditioners
Introduction to refrigeration
Working of refrigeration plant – Major Components
Introduction to air conditioning
Working of air conditioning plant – Major Components

TEXT BOOKS

1. Mechanical Workshop Practice By K. C. John (PHI Learning Private Limited)