SCHEME OF COURSE WORK

Course Title	Engineering workshop L T P C : 0 0 3 2
Course code	15MT1101
Program	B.Tech
Branch	Common to all branches
Semester	I and II

Course outcomes CO

On successful completion of this course student shall be able to

CO	COURSE OUTCOME	Cognitive Level
1	Prepare the wooden pieces into various joints. Prepare different forms of fit on metal pieces and identify different types of patterns used for mould preparations providing necessary allowances.	Remember,understand,Apply
2	Identify different tin-smithy tools for the preparation of models by sheet form various metals and discuss the types of switching operations used in house wiring application.	Remember,understand,Apply
3	Identify the peripherals of a computer, components in CPU and its functionalities.	Remember,understand,Apply
4	Install windows operating systems, learn MS-DOS commands, and work with MS-Office tools	Remember,understand,Apply
5	Set TCP/IP and LAN Connectivity and work with various search engine techniques	Remember,understand,Apply

PO 1	Apply the knowledge of mathematics, science, engineering fundamentals to solve complex mechanical engineering problems
PO 2	Identify, formulate and analyse problems related to mechanical engineering
PO 3	Design solutions for mechanical system components and processes that meet the specified needs with appropriate consideration for public health and safety
PO 4	Perform analysis, conduct experiments and interpret data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions
PO 5	Select and apply appropriate techniques from the available resources and current mechanical engineering and software tools
PO 6	Carry out their professional practice in mechanical engineering by appropriately considering and weighing the issues related to society
PO 7	Understand the impact of the professional engineering solutions on environmental safety and legal issues

Program out comes

A graduate of mechanical engineering will be able to

PO 8	Transform into responsible citizens by resorting to professional ethics and norms of the engineering practice
PO 9	Function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams
PO 10	Communicate fluently with the engineering community and society, and will be able to prepare reports and make presentations effectively
PO 11	Apply knowledge of the engineering and management principles to managing projects and finance in multidisciplinary environments
PO 12	Engage themselves in independent and life-long learning to continuing professional practice in their specialized areas of mechanical engineering

CO PO Matrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2											2		
CO2	3									2			2		
CO3	3	3			2								2		
CO4	3	3					2						2		
CO5		3									2			2	

Assessment methods Observation, Record, Internal Exam, External exam

TEACHING AND LEARNING
EVALUTION

WEEK	CONTENTS	COURSE OUT COMES	SAMPLE QUESTIONS	TEAHING LEARING STRATEGY	ASSESSMENT METHOD AND SCHEDULE
1	Carpentry: Making a Cross-half lap joint using wooden pieces.	C01	1. Name cutting tools 2. what are different types of wood	Experiment	Observation Record Submission (Week 1) Internal Lab
2	Fitting: Preparation of a V- fit between flat mild steel pieces.	CO1	1. What is mild steel. 2. what is purpose of file. Name some files	Experiment	Observation Record Submission (Week 2) Internal Lab 1

3	Foundry: Preparation of a sand mould using a single piece pattern.	C01	1.What are different types of mould 2.Name various tools that can be used in foundry	Experiment	Observation Record Submission (Week 3) Internal Lab 1
4	Tin-Smithy: Preparation of a sheet metal funnel using tin- smithy tools.	CO2	1.What do you mean by galvanization 2.What are different types of stakes	Experiment	Observation Record Submission (Week 4) Internal Lab 1
5	House Wiring: One lamp controlled by a one-way switch. House Wiring: Two-way switching for stair-case lamp.	CO2	What is difference between one way and two way switches	Experiment	Observation Record Submission (Week 5) Internal Lab 1
6	Lathe Machine: Demonstration of turning related activities on Lathe machine. Drilling Machine: Demonstration of drilling related activities on Drilling machine.	CO2	1. What are lathe accessories 2. What are various operations that can be done by drilling machine	Experiment	Observation Record Submission (Week 6) Internal Lab 1
7.	INTERNAL EXAM				

8	Identify the peripherals of a computer - identification of the components in a CPU and its functions - Block diagram of the CPU along with the connectivity of the main components. 2. Assembling and disassembling the system - configuration of each peripheral. Disassembly and assembly of a personal computer. 3. Install windows XP operating system - Installation of MS windows XP on the personal computer. 4. MSDOS commands: - Basic operations that can be performed through MS DOS commands.	CO3		Experiment	Observation Record Submission (Week 1) Internal Lab 1
9	1. Creation of project certificate: Exposure to features like Formatting Fonts in word, Drop Cap in	CO3	1.What mair is difference between late	Experiment	Observation Record Submission (Week 1)

	word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in both LaTeX and / Word. 2. Creating project abstract: Features to be covered are Formatting Styles, Inserting table, Bullets and Numbering. Changing Text Direction, Cell alignment, Footnote, Hyperlink,Symbols, Spell Check, Track Changes. 3. Creating a Newsletter: Features to be covered are Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes and Paragraphs. 4. Creating a Feedback form - Features to be covered are Forms, Text Fields, Inserting objects, Mail Merge in Word.		and word 2. What is mail merge. what are its advantages		Internal Lab 1
10	MICROSOFT POWERPOINT:- 1. Exposure to basic power point utilities and tools (PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering. 2. Auto Shapes, Lines and Arrows in both LaTeX and Power point, Hyperlinks, inserting Images, Clip Art, Audio, Video, Objects, Tables, Charts) to create basic power point presentation. EXERCISE-5 MICROSOFT EXCEL:- 1.	CO4	How to insert audio clip in presentation What is the procedure to use formulae in excel sheet	Experiment	Observation Record Submission (Week 1) Internal Lab 1

	Introduction of Excel as a				

	Spreadsheet tool, Using Excel – Accessing, overview of toolbars, saving excel files, Using help and resources. 2. Creating a Scheduler - Features to be covered are Gridlines, Format Cells, Summation, auto fill, Formatting Text. 3. Calculating GPA - Features to be covered are Cell Referencing, Formulae in excel – average, standard deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP.				

10	EXERCISE-6 1. Search engines and netiquette - Basic points of search engines, Search engines working procedure (Web crawling, Indexing, and Searching). 2. Connectivity - Connectivity to the Local Area Network and accessibility to the Internet. TCP / IP setting	CO4	What are various search engines What are advantages	Experiment	Observation Record Submission (Week 1) Internal Lab 1
11	1. Install Linux operating system: Installation of LINUX on the personal computer. 2. Hardware & Software troubleshooting: ' Identification of the problem of a PC which does not boot (due to improper assembly or defective peripherals) and fixing it to get the computer back to working condition. ' Identification of the problem of a malfunctioning (due to some system software problems) and fixing it to get the computer back to	CO5	What are various types of malfunctioning of computer	Experiment	Observation Record Submission (Week 1) Internal Lab 1
	working condition.				
12	INTERNAL EXAM				