ENGINEERING WORKSHOP

Course Code: 22ES11EW

L	T	P	C
1	0	4	3

Note: Part A is common to all branches and Part B is specific to the respective branch.

Course Outcomes: At the end of this course, the student will be able to
CO1: demonstrate Woodworking and Sheet metal working skills (L3)
CO2: demonstrate Fitting trade and House wiring skills (L3)
CO3: demonstrate 3-D Printing and Engraving skills (L3)
CO4: demonstrate the installation of Operating Systems and identify the components of the computer.(L3)
CO5: use MS office tools in crafting word documents, spreadsheets, and powerpoint presentations.(L3)
CO6: use Latex tools to prepare documents.(L3)

PART-A

(Common to all branches)
(Any SIX exercises with at least ONE from each section to be carried out)

Wood working:

1. Preparation of half – lap joint using wooden pieces
2. Preparation of Mortise and Tenon joint using wooden pieces

Sheet metalworking:

1. Preparation of a tapered tray using sheet metal
2. Preparation of a conical funnel using sheet metal

Fitting:

1. Preparation of a V-fit using mild steel pieces
2. Preparation of a semi-circular fit using mild steel pieces

House wiring:

1. Wiring of two bulbs in Parallel and Series
2. Wiring to control a lamp with two-way switches
3. Wiring to control a fluorescent tube light with one-way switch

Modernmanufacturing methods:

1. Manufacture of components by 3-D Printing
2. Engraving / Cutting with laser beam

For CSE, IT, CSE(AI&ML), CSE(DS)

(Any **Six activities should be carried out)**

Course Outcomes: At the end of the Course the student shall be able to

CO4: demonstrate the installation of Operating Systems and identify the components of the Computer. (L3)
CO5: use MS office tools in crafting word documents, spreadsheets, and powerpointpresentations.(L3)
CO6: use Latex tools to prepare documents.(L3)

List of Activities:

1. Demonstrate the peripherals of a computer or laptop. Prepare a report containing the block diagram of the CPU along with the configuration of each peripheral.
2. Demonstrate the installation operating systems like Linux and MS windows on the personal computer. Configure the system as dual boot with both Windows and Linux.
3. a) Using MS word perform the following:
   Inserting Tables, Borders, Drawing toolbar and Word Art, Formatting Images, Textboxes, Paragraphs, Mail Merge.

   b) Using MS Excel perform the following:
   Formulae in spreadsheet – sum, average, standard deviation, Charts, count function, sorting, Conditional formatting, Pivot, HLOOKUP, VLOOKUP.
4. Using MS Powerpoint perform the following:
   PPT Orientation, Slide Layouts, Auto Shapes, Lines and Arrows, Inserting Images, Tables, Charts, Hyperlinks and Adding animations in the slide.
5. Create a simple document using Latex that consists of Document Structure, Typesetting and Tables.
6. Create a simple document using Latex that consists of figures, Equations and References.
7. Create a newsletter using MS word.
8. Calculate GPA of all students in a class using Excel.

Reference Book:

1. Peter Norton, *Introduction to Computers*, 7th Edition, SIE Publishers, 2017.

Web References:

1. https://explorersposts.grc.nasa.gov/post631/2006-2007/computer_basics/ComputerPorts.doc
2. https://explorersposts.grc.nasa.gov/post631/2006-2007/bitsnbyte/Digital_Storage_Basics.doc
3. http://www.docs.is.ed.ac.uk/skills/documents/3722/3722-2014.pdf
4. https://www.vmware.com/pdf/VMwarePlayerManual10.pdf
5. https://support.microsoft.com/en-us/office