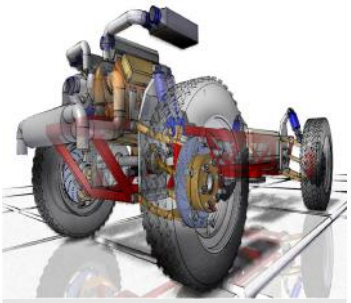
19AG217 AUTO - CAD APPLICATIONS



Source :

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Hours Per Week :

L	T	P	C
0	0	4	2

Total Hours :

L	T	P
-	-	60

WA/RA	SSH/HSH	CS	SA	S	BS
2	40	2	5	2	2

COURSE DESCRIPTION AND OBJECTIVES:

The main objective of this subject is to introduce modern techniques and trends in computer aided design and drafting to students and to equip them in preparing technical drawings in standard CAD software.

COURSE OUTCOMES:

Upon completion of the course, student will able to achieve the following outcomes:

COs	Course Outcomes	POs
1	Understand geometric transformation techniques in CAD.	1,5,6,12
2	Apply mathematical models to represent curves and surfaces.	1,3,6,12
3	Analyse engineering components using solid modeling techniques.	1,2,3,6,12
4	Create CNC programs to manufacture industrial components.	3,5,6,12

SKILLS:

- ✓ *Practice of 2-D drawing on design software.*
- ✓ *Practice of 3-D commands on design software.*
- ✓ *Drawing of hexagonal, nut and bolt.*
- ✓ *2Ddrawingof machine parts with all dimensions and allowances.*
- ✓ *Printing of selected view ports in various paper sizes.*
- ✓ *Understand the working of CNC machine in industry.*

LABORATORY EXPERIMENTS

LIST OF EXPERIMENTS **TOTAL HOURS: 60**

1. Application of computers for designing and Overview of CAD window – explanation of various options on drawing screen.
2. Study of draw tool bar and practice on draw tool bar.
3. Study on dimension and dimensional editing tool bar and Practice on dimension tool bar.
4. Study of OSNAP, and application OSNAP.
5. Study on layer command and modifying drafting.
6. Practice on mirror, offset and array commands.
7. Practice on trim, extend, chamfer and fillet commands.
8. Practice on copy, move, and scale and rotate commands.
9. Practice on rotate and trim commands.
10. Drawing of 2 D- orthographic projections using draw tool bar.
11. Drawing of 2 D- orthographic projections and dimensioning using draw tool bar.
12. Drawing of isometric projections.
13. Practice on creating boundary, region, hatch and gradient commands.
14. Practice on Editing polyline-PEDIT and Explode commands.
15. 2D - Drawing of knuckle joint.
16. Drawing of hexagonal, nut and bolt.
17. Practice on 3-D commands- Extrusion and loft commands.
18. Practice on 3-D commands on sweep and press pull commands.
19. Practice on 3-D Commands- revolving and joining commands.
20. Demonstration on CNC machine and simple problems.

TEXT BOOK:

1. Rao P.N. 2002, “CAD/CAM Principles and Applications”. McGraw-Hill Education Pvt. Ltd., New Delhi.

REFERENCE BOOK:

1. Sareen Kuldeep and Chandan Deep Grewal. 2010, “CAD/CAM Theory and Practice”. S. Chand & Company Ltd., New Delhi.