

## 22BEAS209 AUTO CAD APPLICATIONS

Hours Per Week :

L	T	P	C
0	0	4	2

### PREREQUISITE KNOWLEDGE:

### COURSE DESCRIPTION AND OBJECTIVES:

The goal of this course 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.

### MODULE-1

#### UNIT-1

0L+0T+32L=32 Hours

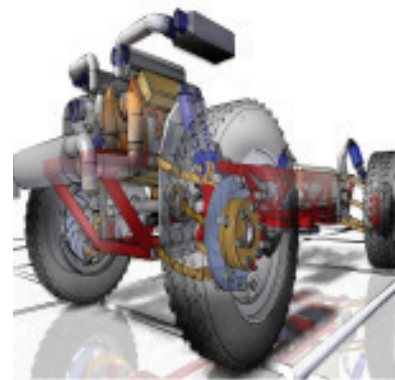
#### PRACTICES:

- Application of computers for design. CAD- Overview of CAD window – Explanation of various options on drawing screen.
- Study of draw and dimension tool bar.
- Practice on draw and dimension tool bar.
- Study of OSNAP, line thickness and format tool bar.
- Practice on OSNAP, line thickness and format tool bar.
- Practice on mirror, offset and array commands.
- Practice on trim, extend, chamfer and fillet commands.
- Practice on copy, move, scale and rotate commands.
- Drawing of 2 D- drawing using draw tool bar.

### MODULE-2

#### PRACTICES:

- Practice on creating boundary, region, hatch and gradient commands.
- Practice on Editing polyline- PEDIT and Explode commands.
- Setting of view ports for sketched drawings.
- Printing of selected view ports in various paper sizes.
- 2Ddrawing of machine parts with all dimensions and allowances- Foot step bearing and knuckle joint.
- Sectioning of foot step bearing and stuffing box.
- Drawing of hexagonal, nut and bolt and other machine parts.
- Practice on 3-D commands- Extrusion and loft.
- Practice on 3-D commands on sweep and press pull.
- Practice on 3-D Commands- revolving and joining.
- Demonstration on CNC machine and simple problems



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**SKILLS:**

- ✓ Practice of 2-D drawing on design software.
- ✓ Practice of 3-D commands on design software.
- ✓ Drawing of hexagonal, nut and bolt.

**COURSE OUTCOMES:**

Upon successful completion of this course, students will have the ability to:

CO No.	Course Outcomes	Blooms Level	Module No.	Mapping with POs
1	Understand geometric transformation techniques in CAD.	Apply	1	1, 2, 3, 4
2	Apply mathematical models to represent curves and surfaces	Analyze	1	1, 2, 3, 4, 5
3	Analyze engineering components using solid modeling techniques.	Evaluate	2	1, 2, 3, 4, 6, 7
4	Create CNC programs to manufacture industrial components	Create	2	1, 2, 3, 4, 5, 7, 11

**TEXT BOOKS:**

1. Rao P.N, "CAD/CAM Principles and Applications" McGraw-Hill Education Pvt. Ltd., New Delhi, 2013.
2. Sareen Kuldeep and Chandan Deep Grewal, "CAD/CAM Theory and Practice" S.Chand and Company Ltd., New Delhi, 2016.

**REFERENCE BOOKS:**

1. Zeid Ibrahim, "Mastering CAD/CAM with Engineering" McGraw-Hill Education Pvt. Ltd., New Delhi, 2015.
2. Lee Kunwoo, "Principles of CAD/CAM/CAE Systems" Addison Wesley Longman, Inc, 2019.