LESSON PLAN

NAME OF FACULTY: PARDEEP DISCIPLINE: MECHANICAL ENGG. SEMESTER: 4th

SUBJECT: COMPUTER AIDED DRAFTING (CAD) LESSON PLAN DURATION: 15 WEEKS

WORK LOAD (PRACTICAL) PER WEEK: 2 TURNS/WEEK (2 PERIODS/ TURN)

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| **WEEK** | **DAY/ TURN** | **TOPIC** | **COVERED ON**  **DATE** |
| **1** | **1** | **UNIT-1: Introduction to Computer Aided Drafting (2D)Auto CAD *(06***  **sheet)**  1.1 Concept of AutoCAD, Tool bars in CAD software,  coordinate system, snap, grid, |  |
| **2** | and ortho mode (Absolute, Relative and Polar), setting of units and layout. |
| **2** | **3** | 1.2 Drawing commands – point, line, arc, |  |
| **4** | circle, ellipse, |
| **3** | **5** | * 1. Editing commands – scale, erase, copy, stretch, lengthen and explode. |  |
| **6** | * 1. Dimensioning and placing text in drawing area |
| **4** | **7** | * 1. Sectioning and hatching |  |
| **8** | * 1. Inquiry for different parameters of drawing entity |
| **5** | **9** | * 1. Create layers within a drawing   2. Specifying Geometrical Dimensioning & tolerancing |  |
| **10** | (GD&T) parameters in drawing |
| **6** | **11** | **UNIT 2 :-Detail and assembly drawing using Drafting Software (2D) (4 sheets)** |  |
| **12** | 2.1 Plummer Block |
| **7** | **13** | 2.2 Wall Bracket |  |
| **14** | 2.3 Stepped pulley, V-belt pulley |
| **8** | **15** | 2.4 Flanged coupling |  |
| **16** | 2.5 Machine tool Holder (Three views) |
| **9** | **17** | 2.6 Screw jack, joints, crank shaft and piston. |  |
| **18** | **UNIT 3 ;-Isometric Drawing by CAD using any part modeling Software (3D)(one sheet)**  Drawings of following on computer:  Cone , cylinder |
| **10** | **19** | Cube , spring |  |
| **20** | Isometric view of objects |
| **11** | **21** | **Unit 4:-Introduction to any part modeling software(ProE, Solid works, AutoCAD, Uni Graphic , Catia etc.)** |  |
| **22** | **Introduction to Sketcher: Sketch Entities, Sketch Tools, Blocks,**  **Dimensioning**   * 1. Part modeling (4 models) Part Modeling Tools:-      1. Creating reference planes |
| **12** | **23** | Creating Extrude features Creating Revolve Creating Swept features |  |
| **24** | * + 1. Creating Loft features     2. Creating Reference - points, axis, coordinates     3. Creating curves |
| **13** | **25** | * + 1. Creating Fillet features     2. Inserting Hole types     3. Creating Chamfer     4. Creating Shell     5. Creating Rib |  |
| **26** | * + 1. Environment& Utilities - Working with views and manipulating views.     2. Create parts e.g. Piston, Pin, Bolts and Nuts, Fixture,   Jig parts, Washer, Rings, Gaskets, Machine parts etc. |
| **14** | **27** | 4.2 Assembly and Simulation ( 2 sheets) Assembly Modeling Tools:-  Introduction to Assembly Modeling & Approaches – Top down and Bottom up approach, |  |
| **28** | Applying Standard Mates- Coincident, Parallel Perpendicular, Tangent, Concentric, Lock, Distance, Angle. |
| **15** | **29** | Assembly of any two Mechanism e.g. Crank slider mechanism, Piston and Cylinder assembly, |  |
| **30** | Quick Return Mechanism (QRM), Machine vices, Crank Shaft, Bearing assembly, any other mechanism. |