GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: **ELECTRICAL ENGG**	Semester: **1ST**	Name of the Teaching Faculty: **SUDEEPTA KUMAR PRADHAN, GAT IN MECH. ENGG.**
Subject: **ENGINEERING DRAWING**	No. of days/per week class allotted: **06**	Semester From date: **25.10.2021** To Date: **31.01.2022** No. of Weeks: **14**
PRE-REQUISITE	• Basic knowledge about unit and dimensions. • Basic knowledge about different instrument.	
COURSE OUTCOMES	CO1; Understand the importance of Engineering Drawing. CO2. Demonstrate the use of different drawing instrument. CO3. Make free hand lettering and numbering. CO4. Practice of dimensioning of drawing. CO5. Undertake different geometric constructions, projections of straight line, planes and solids.	

Week	Class Day	Theory / Practical Topics	DELIVERY METHOD
1ST	1ST	Identify various sizes of drawing boards, drawing sheets as pr BIS.	Whiteboard
	2ND	List the types of pencils, instruments, and scales (RF).	Whiteboard
	3RD	Demonstrate lying of drawing sheet, margin, standard layout and title block as per BIS, folding principle of drawings (blue prints, print outs etc).	Whiteboard
2ND	1ST	Demonstrate and explain the use of various types of lines.	Whiteboard
	2ND	Demonstrate and explain the use of various types of lines.	Whiteboard
	3RD	Demonstrate the principle of single stroke, gothic lettering & numerals as per BIS.	Whiteboard
3RD	1ST	Demonstrate the principle of single stroke, gothic lettering & numerals as per BIS.	Whiteboard
	2ND	Significance of scales in drawing; different scales.	Whiteboard
	3RD	Define and draw plain sale and diagonal sale	Whiteboard
4TH	1ST	Define and draw plain sale and diagonal sale	Whiteboard
	2ND	Explain Conic sections with illustration, Explain terms like focus, vertex,	Whiteboard
	3RD	Explain Conic sections with illustration, Explain terms like focus, vertex,	Whiteboard
5TH	1ST	Draw conics sections by eccentricity method – Ellipse, Parabola and Hyperbola.	Whiteboard
	2ND	Draw conics sections by eccentricity method – Ellipse, Parabola and Hyperbola.	Whiteboard
	3rd	Draw Ellipse by concentric circle method sand arc of circle method.	Whiteboard
6TH	1ST	Draw Ellipse by concentric circle method sand arc of circle method.	Whiteboard
	2ND	Draw parabola by Rectangle Method and Tangent Method.	Whiteboard
	3RD	Draw parabola by Rectangle Method and Tangent Method.	Whiteboard
7TH	1ST	Demonstrate the principles of 1st angle and 3rd angle projections with the help of models and draw symbols.	Whiteboard

	2ND	Demonstrate the principles of 1st angle and 3rd angle projections with the help of models and draw symbols.	Whiteboard
	3RD	Draw projection of points	Whiteboard
8TH	1ST	Draw projection of straight line (parallel to both planes, parallel to one and perpendicular to other, parallel to one and inclined to other and inclined to both reference planes).	Whiteboard
	2ND	Draw projection of straight line (parallel to both planes, parallel to one and perpendicular to other, parallel to one and inclined to other and inclined to both reference planes).	Whiteboard
	3RD	Draw plane figure such as squares, rectangles, triangles, circle, Pentagon and hexagon	Whiteboard
9TH	1ST	Draw projections of solids such as prism, cylinder, cone, tetrahedron and pyramid in simple position (with axis parallel to one reference plane and perpendicular to other reference plane).	Whiteboard
	2ND	Draw the sectional projection & development of prism, cylinder, cone and pyramid in simple position by a cutting plane perpendicular to one reference plane and inclined to other reference plane.	Whiteboard
	3RD	Draw the sectional projection & development of prism, cylinder, cone and pyramid in simple position by a cutting plane perpendicular to one reference plane and inclined to other reference plane.	Whiteboard
10TH	1ST	Draw true shape of the cutting sections	Whiteboard
	2ND	Draw isometric view & Isometric projection of prism, pyramid, cone & cylinder with axis horizontal and vertical with construction of isometric scales.	Whiteboard
	3RD	Explain terms related to building drawing.	Whiteboard
11TH	1ST	Explain terms related to building drawing.	Whiteboard
	2ND	Draw plan, elevation of single room building with verandah (Flat roof according to given line plan and specification).	Whiteboard
	3RD	Draw plan, elevation of single room building with verandah (Flat roof according to given line plan and specification).	Whiteboard
12TH	1ST	Introduction-Settings, Limits etc	Whiteboard
	2ND	Auto CAD commands	Whiteboard
	3RD	Draw commands (Line, circle, are polygon, ellipse, rectangle). Edit command, Dimension commands and Modify Commands for two dimensional drafting only.	Whiteboard
13TH	1ST	Draw commands (Line, circle, are polygon, ellipse, rectangle). Edit command, Dimension commands and Modify Commands for two dimensional drafting only.	Whiteboard
	2ND	Orthographic projections of lines, planes sand solids as per chapter 5.0.	Whiteboard
	3RD	Isometric projection as per Chapter 7.0.	Whiteboard
14TH	1ST	Isometric projection as per Chapter 7.0.	Whiteboard

LEARNING RESOUCES:

1. **Machine Drawing by Basudeb Bhattacharya, Oxford University Press.**
2. **A Text Book of Engineering Drawing by Dr. R.K. Dhawan.**
3. **A Text Book of Engineering Graphics & Auto CAD by K Venugopal.**
4. **A Text book of Engineering Drawing by N.D. Bhatt.**
5. Engineering Drawing by P.S. Gill.
6. A Introduction to Auto CAD – 2012 by George Omura, Willey India Publishers.

25/10/2021

Sign. of Faculty concerned

25/10/21

Sign. of HOD i/c

Principal
G.P Puri