

The Maharaja Sayajirao University of Baroda Polytechnic Diploma in Electronics & Communication Engg. (HPP)		ACADEMIC YEAR 2021-22		
Year - I	ENGINEERING DRAWING (MEC3222)	Lecture /LAB hrs per week	4/4	
Semester - II		Max marks	100	
Pre-Requisite: Basic knowledge of measurements & geometry				
CO1	Use Drafting instruments and Construct polygons, circles and lines with different geometric conditions.			
CO2	Interpret & draw orthographic views from isometric views of simple/round objects			
CO3	Understand the application of engineering curves and its construction.			
CO4	Draw the projection of points, lines, planes and solids under different conditions.			
CO5	Identify,Understand & draw various fasteners & joints used in engineering applications			
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation			
COURSE CONTENT/SYLLABUS				
Unit	Unit Name	Hrs	Weightage	CO
1	ORTHOGRAPHIC PROJECTIONS IN FIRST AND THIRD ANGLE PROJECTION METHOD	15	20	CO1, CO2
2	ENGINEEERING CURVES Simple cycloid, Epi cycloid, Hypo cycloid, Parabola , Involute, Ellipse by concentric circle method, Arc of circle method , Rectangle method and Parallelogram method.	10	20	CO3
3	PROJECTION OF STRAIGHT LINES	10	15	CO4
4	PROJECTION OF PLANE AND LAMINA	10	15	CO4
5	PROJECTION OF SOLIDS Cone, Cylinder, Pyramid: Triangular, Square, Pentagonal, Hexagonal. Prisms: Triangular, Square, Pentagonal, Hexagonal. Frustum: Cone, Pyramids.	10	20	CO4
6	FREE HAND SKETCHES 1. Assembly of Hexagonal Bolt with Hexagonal nut and washer. a. Types of bolts: Hexagonal headed bolt, Square headed bolt with square neck, T headed bolt with square neck, Cylindrical or Cheese headed bolt, Cup or Round headed bolt, hook bolt & Eye bolt. b. Types of nuts: Hexagonal nut, Square nut, Flanged nut, Cap nut, Dome nut, Ring nut, Wing nut, Capstan nut. 2. Studs and Screws a. Types of Studs: Collar stud, Square stud. b. Types of Set Screw: Round or cup headed, cylindrical or cheese, countersunk, socket, Hexagonal headed, Square headed. End of Screws: Oval, Conical, Flat, Cup, Half dog, Full dog c. Gib Headed Key, Parallel / Taper Pin Key	5	10	CO5
		60	100	
REFERENCE BOOKS:				
1.	Text book of Engineering Drawing by N.D. Bhatt & V.M. Panchal			
2.	Text book of Engineering Drawing by P.J.Shah			