RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
OUTCOME BASED CURRICULUM

NAME OF THE PROGRAMME: AUTOMOBILE, MECH, RAC, CHEMICAL, CEMENT, PRODUCTION, OPTHALMIC

Name of Scheme :OCBC -2019   **COURSE CODE: 6808**

COURSE TITLE : ENGINEERING   DRAWING   SEMESTER –I

ENGINEERING   DRAWING
COURSE OUTCOME:

COURSE OUTCOME		CL	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO.1	Prepare basic engineering drawing formats	A	3	3	3	2	1	3	2
CO.2	Translate geometrical details into engineering drawing	A	3	3	3	2	1	2	2
CO.3	Draw projections of points, lines, planes and solids	A	3	3	3	2	1	2	2
CO.4	Draw the development of surfaces and section of solids	A	3	3	3	2	1	2	2
CO.5	Draw isometric view /orthographic projection	U	3	3	3	2	1	2	2

COURSE CONTENTS

UNIT	CONTENTS	
UNIT I: INTRODUCTION, SCALE& ENGINEERING CURVES	<u>Introduction:</u>Introduction of drawing instruments, Designation and sizes of drawing sheet and drawing board Planning of drawing sheet as per I.S.: 696-1972 (SP 46: 1988).Introduction of type of lines and their applications. Single stroke vertical capital letters and numerals .<u>Dimensioning</u>:Elements of dimensioning,Dimensioning system. Dimensioning Different geometrical features <u>Scale:</u>Introduction of scales and their applications, Concept of reduced, enlarged and full size scale .Classification of scales – plain, diagonal. Definition of R.F. Construction of plain and diagonal scales <u>Geometrical construction & curves:</u>Divide a line into any number of equal parts by parallel line method, Bisecting the line and angle. Construction of triangles and polygons (upto hexagon) Introduction of conic sections (curves), Construction of Ellipse by Eccentricity and Concentric circles methods, Construction of Parabola by Eccentricity and Rectangle methods, Construction of Hyperbola by Eccentricity method, Construction of cycloid , Involute of circle and polygon. Construction of Archemedian spiral.	
UNIT II:THEORY	Definition of various term associated with theory of	

OF PROJECTION AND PROJECTION OF POINTS, LINES ,PLANES AND SOLIDS (only first angle projection**)**	projection,Planes of projection, Quadrants, Introduction to first and third angle projection method. Projection of points in all the four quadrants. <u>Projection of lines-</u> - 1. Parallel to HP and VP both. - 2.Perpendicular to one plane and parallel to other. - 3.Inclined to one plane and parallel to other. - 4. line inclined to both the planes <u>Projection of planes circle and polygon (upto hexagon)</u>– Plane - 1Perpendicular to HP and VP both - 2 Perpendicular to one plane and parallel to other - 3.Inclined to one plane and perpendicularto other. <u>Projection of solids:</u>Projection of cylinder, cone, prism (upto hexagonal base)and pyramid (upto hexagonal base). Under the following conditions: - 1. Axis parallel to HP and VP - 2. Axis perpendicular to HP and parallel to VP - 3. Axis perpendicular to VP and parallel to HP - 4. Axis inclined to HP and parallel to VP. - 5. Axis inclined to VP and parallel to HP.	

UNIT III: SECTION OF SOLIDS(only first angle projection)& DEVELOPMENT OF LATERAL SURFACES	<u>Section of solids</u>:-Section of cone, cylinder, prism (upto hexagonal base)and pyramid (upto hexagonal base).
	
	(Solid resting on its base in the HP i.e. the Axis perpendicular to HP and parallel to VP) in the following cases:
	  1 Section plane parallel to HP and perpendicular to VP
	  2 Section plane parallel to VP and perpendicular to HP
	  3 Section plane inclined to HP and perpendicular to VP.
	  4 Section plane inclined to VP and perpendicular to HP.
	- Drawing True shape of section.
	<u>Development of lateral surface of solids</u>: Introduction, Development of Cone, Cylinder, prism (upto hexagonal base)and pyramid (upto hexagonal base) (simple and truncated) under the condition solid resting on its base in the H.P. and axis perpendicular to H.P. and parallel to V.P.	

UNIT	Principles of orthographic projections, Selection of front	

IV:ORTHOGRA---PHIC PROJECTIONS	view, Preparation of necessary orthographic views of simple objects from given pictorial views, Dimensioning orthographic viewsas per standard practice.	
UNIT V: ISOMETRIC PROJECTION AND FREE HAND SKETCHING	Isometric view and projection: Concept of isometric view and isometric projection (Isometric Drawing), Construction of isometric scale, Construction of isometric view and projection of polygon (up to hexagon) and circle.Construction of isometric view of cone, cylinder, prism (up to hexagonal base) and pyramid (up to hexagonal base) and their combinations solids, Isometric view and projection of simple solids. Free hand sketching: Free hand sketching of orthographic and isometric views of simple objects	

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