

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2022/23 (SUMMER)

Discipline : CIVIL ENGG.		Semester: 6th		Name of the Teaching Faculty :SUBINOY	
Subject : LAND SURVEY-II (TH.1)		No. of Days / per week class allotted : 05		Semester From date : 14.02.2023 To Date : 23.05.2023	
MONTH	Week	Day	Unit	Topics	
FEBRUARY	3rd	2nd	UNIT-I	TACHEOMETRY: (Only concepts; applications without derivation)	
				Principles, stadia constants determination	
		3rd		Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems	
		4th		Elevations and distances of staff stations – numerical problems	
		5th		Question Discussion	
	4th	1st		Question Discussion	
		2nd	UNIT-II	CURVES :	
				compound, reverse and transition curve, Purpose & use of different types of curves in field	
		3rd		Elements of circular curves, numerical problems	
		4th		Preparation of curve table for setting out	
		5th		Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord, (ii) successive bisection of arc, (iii) offsets from tangents, (iv) offsets from chord produced, (v) Rankine's method of tangent angles (No derivation)	
	5th	1st		Obstacles in curve ranging – point of intersection inaccessible	
		2nd		Question Discussion	
		3rd		Question Discussion	
		4th	UNIT-III	BASICS ON SCALE AND BASICS OF MAP:	

MARCH

1st	4th		Fractional or Ratio Scale, Linear Scale, Graphical Scale,What is Map, Map Scale and Map Projections
	5th		How Maps Convey Location and Extent,How Maps Convey characteristics of features,How Maps Convey Spatial Relationship
2nd	1st		Classification of Maps:Physical Map,Topographic Map,Road Map,Political Map
	4th		Economic & Resources Map,Thematic Map,Climate Map
	5th		CLASS TEST-1
3rd	1st	UNIT-IV	SURVEY OF INDIA MAP SERIES:
			Open Series map,Defense Series Map
	2nd		Map Nomenclature
	3rd		Quadrangle Name,Latitude, Longitude, UTM's
	4th		Contour Lines ,Magnetic Declination
	5th		Public Land Survey System,Field Notes
4th	1st		Question Discussion
	2nd		Question Discussion
	3rd	UNIT-V	BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION:
			Aerial Photography: Film, Focal Length, Scale
	4th		Types of Aerial Photographs (Oblique, Straight)
	5th		INTERNAL ASSESSMENT
	5th	1st	INTERNAL ASSESSMENT
		2nd	Photogrammetry: Classification of Photogrammetry,Aerial Photogrammetry ,Terrestrial Photogrammetry
		3rd	Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform,Control Survey
		5th	Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation Stereoscopic Measurement
	1st		X-parallax,Y-parallax
	2nd		DTM/DEM Generation

APRIL	2nd	3rd		Ortho Image Generation
		4th	UNIT-VI	MODERN SURVEYING METHODS :
				Principles, features and use of (i) Micro-optic theodolite, digital theodolite
	3rd	1st		Working principles of a Total Station (Set up and use of total station to measure angles, distances of points under survey from total station and the co-ordinates (X,Y & Z or northing, easting, and elevation) of surveyed
		2nd		Question Discussion
		3rd		Question Discussion
		4th	UNIT-VII	BASICS ON GPS & DGPS AND ETS:
				GPS: - Global Positioning :Working Principle of GPS,GPS Signals
	4th	1st		Errors of GPS,Positioning Methods
		2nd		DGPS: - Differential Global Positioning System :Base Station Setup ,Rover GPS Set up
		3rd		Download, Post-Process and Export GPS data
		4th		Sequence to download GPS data from flashcards,Sequence to Post-Process GPS data
		5th		Sequence to export post process GPS data ,Sequence to export GPS Time tags to file
	5th	1st		Question Discussion
		2nd		Question Discussion
		3rd		ETS: - Electronic Total Station: Distance Measurement ,Angle Measurement
		4th		Leveling,Determining position
		5th		Reference networks,Errors and Accuracy
	1st	1st		Question Discussion
		2nd		Question Discussion
		3rd	UNIT-VIII	BASICS OF GIS AND MAP PREPARATION USING GIS
				Components of GIS, Integration of Spatial and Attribute Information,Three Views of Information System:Database or Table View, Map View and Model View
		4th		Spatial Data Model
		1st		Attribute Data Management and Metadata Concept

MAY	2nd	2nd		Prepare data and adding to Arc Map.
		3rd		Organizing data as layers.
		4th		Editing the layers, Switching to Layout View, Change page orientation.Removing Borders,Adding and editing map information.Finalize the map
		5th		Question Discussion
	3rd	1st		Question Discussion
		2nd		Revision
		3rd		Revision
		4th		Revision
	4th	1st		Revision
		2nd		Revision

