GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2021/22 (SUMMER)

Discipline :		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 : 10.03.2022 To Date : 28.06.2022
MONTH	Week	Day	Unit	Topics
MARCH	2nd	4th	UNIT-I	**TACHEOMETRY: (Only concepts; applications without derivation)**
				Principles, stadia constants determination
		5th		Stadia tacheometry with staff held vertical and with line of collimation horizontal or inclined, numerical problems
	3rd	1st		Elevations and distances of staff stations – numerical problems
		2nd		**Question Discussion**
		3rd		**Question Discussion**
	4th	1st		**Question Discussion**
		2nd		**Question Discussion**
		3rd	UNIT-II	**CURVES :**
				compound, reverse and transition curve, Purpose & use of different types of curves in field
		4th		Elements of circular curves, numerical problems
		5th		Preparation of curve table for setting out
	5th	1st		Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord
		2nd		**Question Discussion**
		3rd		(ii) successive bisection of arc
		4th		**Question Discussion**
	2nd	1st		(iii) offsets from tangents
		2nd		**Question Discussion**
		3rd		(iv) offsets from chord produced
		4th		**Question Discussion**
		5th		(v) Rankine's method of tangent angles (No derivation)
	3rd	1st		**Question Discussion**
		2nd		Obstacles in curve ranging – point of intersection inaccessible

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

	4th	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 points relative to Total Station position using trigonometry and triangulation.
		2nd		**Question Discussion**
		3rd		**Question Discussion**
		4th	**UNIT-VII**	**BASICS ON GPS & DGPS AND ETS:**
				GPS: - Global Positioning : Working Principle of GPS,GPS Signals
		5th		Errors of GPS,Positioning Methods
	5th	2nd		**DGPS: - Differential Global Positioning System :**Base Station Setup ,Rover GPS Set up
JUNE	1st	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
	2nd	1st		**Question Discussion**
		2nd		**ETS: - Electronic Total Station:** Distance Measurement ,Angle Measurement
				Leveling,Determining position
		3rd		Reference networks,Errors and Accuracy
				Question Discussion
		4th	**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
		5th		Spatial Data Model
	3rd	1st		Attribute Data Management and Metadata Concept
		4th		Prepare data and adding to Arc Map.
		5th		Organizing data as layers.
	4th	1st		Editing the layers, Switching to Layout View, Change page orientation.Removing Borders,Adding and editing map information.Finalize the map
		2nd		**Question Discussion**
		3rd		**Question Discussion**
		4th		**Revision**
		5th		**Revision**
	5th	1st		**Revision**
		2nd		**Revision**