GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2020/21 (SUMMER)

Discipline : CIVIL		Semester: 6th		Name of the Teaching Faculty :SUBINOY
Subject : LAND SURVEY-II		No. of Days / per week class		Semester From date : 05.04.2021 To Date : 13.08.2021
MONTH	Week	Day	Unit	Topics
APRIL	2nd	1st	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
		5th		Elevations and distances of staff stations – numerical problems
	3rd	1st		**Question Discussion**
		3rd		**Question Discussion**
		5th	UNIT-II	**CURVES :**
				compound, reverse and transition curve, Purpose & use of different types of curves in field
	4th	1st		Elements of circular curves, numerical problems
		3rd		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
		3rd		**Question Discussion**
		5th		**Question Discussion**
	2nd	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
		3rd		How Maps Convey Location and Extent,How Maps Convey characteristics of features,How Maps Convey Spatial Relationship
		5th		Classification of Maps:Physical Map,Topographic Map,Road Map,Political Map
				Economic & Resources Map,Thematic Map,Climate Map
	3rd	1st	UNIT-IV	**SURVEY OF INDIA MAP SERIES:**
				Open Series map,Defense Series Map
		3rd		Map Nomenclature

MAY		5th		Quadrangle Name,Latitude, Longitude, UTM's
	4th	1st		Contour Lines ,Magnetic Declination
		3rd		Public Land Survey System,Field Notes
		5th	UNIT-V	**BASICS OF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGE GENERATION:**
				Aerial Photography: Film, Focal Length, Scale
	5th	1st		Types of Aerial Photographs (Oblique, Straight)
		3rd		**INTERNAL ASSESSMENT**
		5th		Photogrammetry: Classification of Photogrammetry,Aerial Photogrammetry ,Terrestrial Photogrammetry
	6th	1st		Photogrammetry Process: Acquisition of Imagery using aerial and satellite platform,Control Survey
JUNE	1st	3rd		Geometric Distortion in Imagery Application of Imagery and its support data Orientation and Triangulation Stereoscopic Measurement
		5th		X-parallax,Y-parallax
	2nd	1st		DTM/DEM Generation
		3rd		Ortho Image Generation
		5th	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 points relative to Total Station position using trigonometry and triangulation.
		3rd		**Question Discussion**
		5th		**Question Discussion**
	4th	1st	UNIT-VII	**BASICS ON GPS & DGPS AND ETS:**
				GPS: - Global Positioning : Working Principle of GPS,GPS Signals
		3rd		Errors of GPS,Positioning Methods
		5th		**DGPS: - Differential Global Positioning System :**Base Station Setup ,Rover GPS Set up
	5th	1st		Download, Post-Process and Export GPS data
		3rd		Sequence to download GPS data from flashcards,Sequence to Post-Process GPS data
	1st	5th		Sequence to export post process GPS data ,Sequence to export GPS Time tags to file
	2nd	1st		**Question Discussion**
		3rd		**ETS: - Electronic Total Station:** Distance Measurement ,Angle Measurement

JULY		5th		Leveling,Determining position
	3rd	1st		Reference networks,Errors and Accuracy
		3rd		**Question Discussion**
		5th	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	1st		Spatial Data Model
		3rd		Attribute Data Management and Metadata Concept
		5th		Prepare data and adding to Arc Map.
	5th	1st		Organizing data as layers.
		3rd		Editing the layers, Switching to Layout View, Change page orientation.Removing Borders,Adding and editing map information.Finalize the map
		5th		**Question Discussion**
AUGUST	1st	1st		**REVISION**
		3rd		**REVISION**
		5th		**REVISION**
	2nd	1st		**REVISION**
		3rd		**REVISION**
		5th		**REVISION**