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Discipline:		Semester: 6 <sup>th</sup>	Name of the Teaching Faculty <i>Panghamitra Mohapatra</i>	
Subject: <b>LAND SURVEY - II</b>	No of Days/Week Class Allotted: <b>5P</b>	Semester From date: <b>14.03.22</b> To date: <b>30.06.22</b> .	No. of Weeks:	
WEEK	Class Day	Theory Topics		
01	1st	Tacheometry - principles, stadia constants determinations & concept		
	2nd	Stadia tacheometry with staff held vertical with numerical problems.		
	3rd	Stadia tacheometry with staff held inclined with numerical problems.		
	4th	Elevations and distances of staff stations.		
	5th	Numerical problems on elevations and distances.		
02	1st	Numerical problems on elevations and distances.		
	2nd	Curves - compound, reverse and transition, simple curve		
	3rd	purpose and use of different types of curves in field.		
	4th	Circular Curves with numerical problems.		
	5th	preparation of curve table for setting out, setting out of circular curve by chain & tape method.		
03	1st	1 - offsets from long chord, 2 - successive bisection of arcs, 3 - offsets from tangents.		
	2nd	4 - Offsets from Chord produced, 5 - Rankine's method of tangent angles.		
	3rd	Obstacles in curve ranging - point of intersection inaccessible.		
	4th	Basics on scale and basics of map - Ratio Scale, Linear scale, Graphical scale, Map, Map scale etc.		
	5th	Map projections, how maps convey location and extent.		

WEEK	Class Day	Theory Topics
04	1st	How maps convey location and extent.
	2nd	How maps convey characteristics & features.
	3rd	How maps convey spatial relationship.
	4th	Classification of map - Physical map, topographic map, Road map, political map
	5th	Economic & resources map, Thematic map & climate map.
05	1st	Survey of India map series. Open series map, Defence series map
	2nd	Map nomenclature - Quadrangle name,
	3rd	Latitude, Longitude, UTM's
	4th	Contour lines
	5th	Magnetic Declination,
06	1st	Public Land survey system.
	2nd	Field notes of map nomenclature.
	3rd	Different type of map.
	4th	Aerial photography, types of aerial photography.
	5th	Oblique & Straight photography, Film, Focal length, scale.



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WEEK	Class Day	Theory Topics
07	1st	Photogrammetry - classification of photogrammetry
	2nd	Aerial & Terrestrial photogrammetry.
	3rd	Photogrammetry Process - Acquisition of Imagery using aerial and satellite platform.
	4th	Control survey, Geometric Distortion in Imagery.
	5th	Application of Imagery and its support data.
08	1st	Orientation and Triangulation,
	2nd	Stereoscopic Measurement - $x$ - parallax $y$ - Parallax
	3rd	DTM / DEM Generation, Ortho Image Generation.
	4th	Modern surveying - Principles & features
	5th	Uses - Micro-optic theodolite. Digital theodolite.
09	1st	Working principle of Total station - setup & use
	2nd	Distances of points under survey from total station & co-ordinates (X, Y, Z, easting & elevation).
	3rd	Total station (Co-ordinates (X, Y, Z plane))
	4th	Total station position using trigonometry.
	5th	Total station position using triangulation.

WEEK	Class Day	Theory Topics
10	1st	GPS - Def? , GPS signals , & working principle of GPS .
	2nd	Errors of GPS , positioning methods .
	3rd	DGPS - Base station set up , Rover station set up .
	4th	Download , post-process & Export GPS data .
	5th	Sequence to download GPS data from flashcards .
11	1st	Sequence to post-process GPS data , <del>and</del>
	2nd	Sequence to export post process GPS data and GPS Time Tags to file .
	3rd	Electronic Total station - Distance measurement and angle measurements .
	4th	ETS - levelling , Determining position , reference networks , Errors & Accuracy .
	5th	Component of GIS , Integration of spatial and attribute information .
12	1st	Three views of IE - Database/Table view Map view Model view
	2nd	Spatial data model , attribute data mgmt , metadata concept .
	3rd	Prepare data and adding to Arc map .
	4th	Organizing data <del>and</del> as layers , editing the layers .
	5th	Switching to layout view , change page orientation .



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WEEK	Class Day	Theory Topics
	1st	Removing borders, Adding and editing map information.
	2nd	Finalize the map.
	3rd	Information system of GIS
	4th	Component of GIS
	5th	Spatial data model, types of meta data
	1st	Data button on the ArcMap toolbar.
	2nd	Removing borders.
	3rd	Adding & editing map information.
	4th	5 layers of GIS system.
	5th	Edit a feature layer in map viewer classic.
	1st	Revision unit - 1, 2.
	2nd	Revision unit - 3, 4
	3rd	Revision unit - 5, 6
	4th	Revision unit - 7, 8
	5th	Revision unit - 9, 10