R.K INSTITUTE OF TGECHNOLOGY & ENGINEERING CUTTACK LESSON PLAN- 2025/26 (SUMMER)			
Discipline:	**Semester: 6th**	**Name of the Teaching Faculty : Mrs. SUDHESNA PANDA**	
Subject :LAND SURVEY-II (TH.1)	**No. of Days / per week class allotted: 05**	**Semester From date : 22.12.2025**	**ToDate:18.04.2026**

Day	Unit	Topics
4th	UNIT-I	**TACHEOMETRY:(Only concepts; applications without derivation)**
		Principles, stadia constants determination
5th		Stadiatacheometrywithstaffheldverticalandwithlineofcollimationhorizontalorinclined,numerical problems
1st		Elevation Sandi stances of staff stations –numerical problems
2nd		**Question Discussion**
3rd		**Question Discussion**
1st		**Question Discussion**
2nd		**Question Discussion**
3rd	UNIT-II	**CURVES:**
		compound,reverseandtransitioncurve,Purpose&useofdifferenttypesofcurvesin field
4th		Elements of circular curves, numerical problems
5th		Preparation of curve table for setting out
1st		Settingoutofcircularcurvebychainandtapeandbyinstrumentangularmethods(i)offsetsfromlong chord
2nd		**Question Discussion**
3rd		(ii)successive bisection of arc
4th		**Question Discussion**
1st		(iii)offsets from tangents
2nd		**Question Discussion**
3rd		(iv)offsets from chord drop diced
4th		**Question Discussion**
5th		(v)Rankin's method of tangent angles (No derivation)
1st		**Question Discussion**
2nd		Obstacle sin curve ranging–point of intersection inaccessible

3rd		**Question Discussion**
1st	**UNIT-III**	**BASICSONSCALEANDBASICSOF MAP:**
		FractionalorRatioScale,LinearScale,GraphicalScale,WhatisMap,MapScaleandMap Projections
2nd		How Maps Convey Location and Extent
3rd		HowMapsConveycharacteristicsoffeatures,HowMapsConveySpatialRelationship
4th		ClassificationofMaps:PhysicalMap,TopographicMap,RoadMap,PoliticalMap
5th		Economic & Resources Map, Thematic Map, Climate Map
1st		**CLASS TEST-1**
2nd	**UNIT-IV**	**SURVEYOFINDIAMAP SERIES:**
		Open Seriesmap,DefenseSeriesMap
3rd		Map Nomenclature
4th		Quad range Name ,Latitude ,Longitude, Tm's
5th		Contour Lines, Magnetic Declination
1st		Public Land Survey System ,Field Notes
3rd		**Question Discussion**
4th	**UNIT-V**	**BASICSOFAERIALPHOTOGRAPHY,PHOTOGRAMMETRY,DEMANDORTHOIMAGE GENERATION:**
		Aerial Photography :Film, Focal Length ,Scale
5th		Types of Aerial Photographs(Oblique, Straight)
1st		Photogrammetry:ClassificationofPhotogrammetry,AerialPhotogrammetry,TerrestrialPhotogrammetry
2nd		PhotogrammetryProcess:AcquisitionofImageryusingaerialandsatelliteplatform,ControlSurvey
3rd		GeometricDistortioninImageryApplicationofImageryanditssupportdataOrientationandTriangulation Stereoscopic Measurement
4th		X-parallax-parallax
5th		DTM/DEM Generation
2nd		Ortho ImageGeneration
3rd		**INTERNALASSESSMENT**
4th		**INTERNALASSESSMENT**
5th	**UNIT-VI**	**MODERNSURVEYINGMETHODS:**
		Principles,featuresanduseof(i)Micro-optictheodolite,digitaltheodolite

1st		Working principles of a Total Station (Setup 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**	**BASICSONGPS&DGPSAND ETS:**
		GPS:-Global Positioning: Working Principle of GPS, GPS Signals
5th		Errors of GPS, Positioning Methods
2nd		**DGPS:-DifferentialGlobalPositioningSystem:**BaseStationSetup,RoverGPSSetup
3rd		Download ,Post-Process and Export GPS data
4th		SequencetodownloadGPSdatafromflashcards,SequencetoPost-ProcessGPSdata
5th		SequencetoexportpostprocessGPSdata,SequencetoexportGPSTimetagstofile
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**	**BASICSOFGISANDMAPPREPARATIONUSINGGIS**
		ComponentsofGIS,IntegrationofSpatialandAttributeInformation,ThreeViewsofInformation System :Data base or Table View, Map View and Mode view
5th		Spatial Data Model
1st		Attribute Data Management and Metadata Concept
4th		Prepare data and adding to Arc Map.
5th		Organizing data slayers.
1st		Editingthelayers,SwitchingtoLayoutView,Changepageorientation.RemovingBorders,Addingand Editing map information .Finaliz ethemap
2nd		**Question Discussion**
3rd		**Question Discussion**
4th		**Revision**
5th		**Revision**
1st		**Revision**
2nd		**Revision**