BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

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| SUBJECT: LAND SURVEYING II (TH 1) | ACCADEMIC SESSION: 2021-22 |
| FACULTY: SRI ABINASH PANDA | SEMESTER: 6TH |
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| Sd/- |
| H O D (Civil Engg.) |

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| **Descipline**  Civil engineering | **Semester- 6th** | | |  |  | | --- | --- | | NAME OF THE TEACHING FACULTY | **ABINASH PANDA** | |
| Subject  LAND SURVEY-2 | **No of Days / per week class allotted :05 period per week**  Monday-1p,Tues -1p,Wed-2p,Friday-1p | | **Semester starts from date -10/03/2022 to date 10/06/2022**  **No of weeks : 15 weeks** |
| **Week** | **Class date** | **No of period available** | **Topics to be covered** |
| 1ST | 11/03/2022 | 1 | **Introduction to surveying-II &syllabu discussion**  **1.0.TACHEOMETRY:(Only concepts; applications without derivation)**  1.1.Principles |
| 2nd | 14/03/2022 | 1 | 1.1.stadia constantsdetermination |
| 15/03/2022 | 1 | 1.2. Stadia tacheometry with staff held vertical and with line of collimation horizontal |
| 16/03/2022 | 2 | 1.2.Stadia tacheometry with staff held vertical and with line of collimation inclined, numerical problems |
| 3rd | 21/03/2022 | 1 | 1.3. Elevations and distances of staff stations – numericalproblems |
| 22/03/2022 | 1 | 1.3.Elevations and distances of staff stations – numericalproblems |
| 23/03/2022 | 2 | 2.0.CURVES: 2.1.compound, reverse and transition curve, Purpose & use of different types of curves infield |
| 25/03/2022 | 1 | 2.2.Elements of circular curves |
| 4th | 28/03/2022 | 1 | 2.2. Numerical problems |
| 29/03/2022 | 1 | **Class test -1** |
| 30/03/2022 | 2 | 2.3.Preparation of curve table for settingout  2.4.Setting out of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord |
| 5th | 04/04/2022 | 1 | (ii) successive bisection of arc, (iii) offsets from tangent |
| 05/04/2022 | 1 | 2.4.Setting out of circular curve by(iv) offsets from chord produced, (v) Rankine’s method of tangent angles (Noderivation) |
| 06/04/2022 | 2 | 2.5. Obstacles in curve ranging – point of intersectioninaccessible**3.0.BASICS ON SCALE AND BASICS OFMAP**: 3.1.Fractional or Ratio Scale, Linear Scale, GraphicalScale 3.2.What is Map |
| 08/04/2022 | 1 | 3.2.. Map Scale and MapProjections |
| 6th | 11/04/2022 | 1 | 3.3How Maps Convey Location andExtent  3.4.How Maps Convey characteristics offeatures  3.5.How Maps Convey SpatialRelationship |
| 12/04/2022 | 1 | 3.6.Classification ofMaps  3.6.1.Physical Map3.6.2Topographic Map3.6.3.RoadMap  3.6.4.Political Map3.6.5.Economic &ResourcesMap  3.6.6.Thematic Map3.6.7.ClimateMap |
| 13/04/2022 | 2 | 4.0.SURVEYOF INDIA MAPSERIES: 4.1.Open Seriesmap  4.2.Defense SeriesMap |
| 7TH | 18/04/2022 | 1 | 4.3.Map Nomenclature  4.3.1QuadrangleName  4.3.2.Latitude, Longitude |
| 19/04/2022 | 1 | 4.3.2. UTM 4.3.3. Contour Lines |
| 20/04/2022 | 2 | 4.3.4.MagneticDeclination  4.3.5.Public Land SurveySystem  4.3.6.FieldNotes |
| 22/04/2022 | 1 | 5.0.BASICSOF AERIAL PHOTOGRAPHY, PHOTOGRAMMETRY, DEM AND ORTHO IMAGEGENERATION: 5.1.AerialPhotography:  5.1.1.Film, Focal Length,Scale |
| 8TH | 25/05/2022 | 1 | 5.1.2. Types of Aerial Photographs (Oblique,Straight)  5.2.Photogrammetry:  5.2.1.Classification ofPhotogrammetry |
| 26/04/2022 | 1 | 5.2.2. AerialPhotogrammetry  5.2.3.TerrestrialPhotogrammetry |
| 27/04/2022 | 2 | 5.3.**Photography process**  5.3.1.Acquisition of Imagery using aerial and satelliteplatform  5.3.2.ControlSurvey  5.3.3.Geometric Distortion inImagery |
| 29/04/2022 | 1 | **Class test-2** |
| 9TH | 02/05/2022 | 1 | 5.3.3.Application of Imagery and its support data orientation and triangulation stereoscopic measurement |
| 04/05/2022 | 2 | 5.4.DTM/DEMGeneration 5.5.OrthoImageGeneration6.0.MODERN SURVEYING METHODS: 6.1.Principles, features and use of (i) Micro-optic theodolite, digitaltheodolite |
| 06/05/2022 | 1 | 6.0.MODERN SURVEYING METHODS: 6.1.Principles, features and use of (i) Micro-optic theodolite, digitaltheodolite |
| 10TH | 09/05/2022 | 1 | **Internal test** |
| 10/05/2022 | 1 | **Internal test** |
| 11/05/2022 | 2 | 6.2.distancesof 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 andtriangulation. |
| 13/05/2022 | 1 | 7.0.BASICSON GPS &DGPS ANDETS: 7.1.GPS: - GlobalPositioning  7.1.1.Working Principle of GPS,GPSSignals,  7.1.2.Errors of GPS,Positioning Methods |
| 11TH | 17/05/2022 | 1 | **7.2.DGPS: - Differential Global PositioningSystem**  7.2.1.Base StationSetup  7.2.2.Rover GPS Setup |
| 18/05/2022 | 2 | 7.2.3.Download, Post-Process and Export GPSdata  7.2.4.Sequence to download GPS data fromflashcards  7.2.5.Sequence to Post-Process GPSdata |
| 20/05/2022 | 1 | 7.2.6.Sequence to export post process GPSdata  7.2.7.Sequence to export GPS Time tags tofile |
| 12TH | 23/05/2022 | 1 | **7.3.ETS: - Electronic TotalStation**  7.3.1..1DistanceMeasurement  7.3.2.AngleMeasurement  7.3.3.Leveling |
| 24/05/2022 | 1 | 7.3.4.Determiningposition  7.3.5.Referencenetworks  7.3.6.Errors andAccuracy |
| 25/05/2022 | 2 | 8.0.BASICSOF GIS AND MAP PREPARATION USINGGIS 8.1.Components of GIS, Integration of Spatial and AttributeInformation  8.2Three Views of InformationSystem  8.2.1Database or Table View, Map View and ModelView |
| 27/05/2022 | 1 | 8.3.Spatial DataModel  8.4.Attribute Data Management and MetadataConcept  8..5.Preparedata and adding to ArcMap. |
| 13TH | 31/05/2022 | 1 | **Class test -3** |
| 01/06/2022 | 2 | 8.6. Organizing data aslayers  8.7.Editingthe layers.  8.8.Switchingto LayoutView. |
| 03/06/2022 | 1 | 8.9..Changepageorientation.  8.10.RemovingBorders. |
| 14TH | 06/06/2022 | 1 | 8.11.Adding and editing mapinformation |
| 07/06/2022 | 1 | 8.12. Finalize themap |
| 08/06/2022 | 2 | revision |
| 10/06/2022 | 1 | Previous year question discussion |