BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

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| SUBJECT: LAND SURVEY II (TH 1) | ACCADEMIC SESSION: 2021-22 |
| FACULTY: SRI KANIT PALAKIA | SEMESTER: 6TH |
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| H O D (Civil Engg.) |

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| Discipline:  **Civil Engineering** | Semester:  **6th** | | Name of the teaching faculty:  **Sri KanitPalakia** |
| Subject:  **Land Survey II** | No of days per week class allotted: **05 periods/week**  **(Mon, Tue, Thu, Fri and sat-1 period each)** | | Semester : From date: 10-03-2022 to date : 10-06-2022  No of weeks: 14 weeks |
| **Week** | **Class date** | **No of Period Available** | **Topics to be Covered** |
| 1ST | 10/03/2022 | 1 | 1.1.Principles |
| 2nd | 14/03/2022 | 1 | 1.1.stadia constantsdetermination |
| 15/03/2022 | 2 | 1.2. Stadia tacheometry with staff held vertical and with line of collimation horizontal |
| 16/03/2022 | 1 | 1.2.Stadia tacheometry with staff held vertical and with line of collimation inclined, numerical problems |
| 17/03/2022 | 1 | Numerical problems |
| 3rd | 21/03/2022 | 1 | 1.3. Elevations and distances of staff stations – numericalproblems |
| 22/03/2022 | 2 | Numericalproblems |
| 23/03/2022 | 1 | 2.1.compound, reverse and transition curve, Purpose & use of different types of curves infield |
| 24/03/2022 | 1 | 2.2.Elements of circular curves |
| 4th | 28/03/2022 | 1 | Numerical problems |
| 29/03/2022 | 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 |
| 30/03/2022 | 1 | Setting out of circular curve by (ii) Successive bisection of arc,  (iii) Offsets from tangent |
| 31/03/2022 | 1 | Monthly Class Test |
| 5th | 04/04/2022 | 1 | Setting out of circular curve by(iv)offsets from chord produced, (v) Rankine’s method of tangent angles (Noderivation) |
| 05/04/2022 | 2 | 2.5. Obstacles in curve ranging – point of intersectioninaccessible  Numerical problems |
| 06/04/2022 | 1 | 3.1.Fractional or Ratio Scale, Linear Scale, GraphicalScale 3.2.What is Map |
| 07/04/2022 | 1 | 3.3. 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 | 2 | 3.6.Classification ofMaps  3.6.1.Physical Map 3.6.2Topographic Map 3.6.3.RoadMap  3.6.4.Political Map 3.6.5.Economic &ResourcesMap |
| 13/04/2022 | 1 | 3.6.6.Thematic Map 3.6.7.ClimateMap |
| 7TH | 18/04/2022 | 1 | 4.1.Open Seriesmap  4.2.Defense SeriesMap |
| 19/04/2022 | 2 | 4.3.Map Nomenclature  4.3.1QuadrangleName |
| 20/04/2022 | 1 | 4.3.2.Latitude, Longitude |
| 21/04/2022 | 1 | 4.3.2. UTM |
| 8TH | 25/04/2022 | 1 | 4.3.3. Contour Lines 4.3.4.MagneticDeclination |
| 26/04/2022 | 2 | 4.3.5.Public Land SurveySystem 4.3.6.FieldNotes |
| 27/04/2022 | 1 | 5.1.AerialPhotography:  5.1.1.Film, Focal Length,Scale |
| 29/04/2022 | 1 | Monthly Class Test |
| 9TH | 02/05/2022 | 1 | 5.1.2. Types of Aerial Photographs (Oblique,Straight) |
| 04/05/2022 | 1 | 5.2.Photogrammetry:  5.2.1.Classification ofPhotogrammetry |
| 05/05/2021 | 1 | 5.2.2. AerialPhotogrammetry |
| 10TH | 09/05/2022 | 1 | Internal Examination |
| 10/05/2022 | 2 | Internal Examination |
| 11/05/2022 | 1 | 5.2.3.TerrestrialPhotogrammetry |
| 12/05/2022 | 1 | 5.3.**Photography process**  5.3.1.Acquisition of Imagery using aerial and satelliteplatform |
| 11TH | 17/05/2022 | 2 | 5.3.2.ControlSurvey  5.3.3.Geometric Distortion inImagery  5.3.3.Application of Imagery and its support data orientation and triangulationstereoscopicmeasurement  5.4.DTM/DEMGeneration  5.5.Ortho ImageGeneration |
| 18/05/2022 | 1 | 6.1.Principles, features and use of (i) Micro-optic theodolite, digitaltheodolite |
| 19/05/2022 | 1 | 6.2.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 andtriangulation.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. |
| 12TH | 23/05/2022 | 1 | 6.2 Continue….. |
| 24/05/2022 | 2 | 6.2 Continue….. |
| 25/05/2022 | 1 | 7.1.GPS: - GlobalPositioning  7.1.1.Working Principle of GPS,GPSSignals,  7.1.2.Errors of GPS,Positioning Methods |
| 26/05/2022 | 1 | Monthly Class Test |
| 13TH | 31/05/2022 | 2 | **7.2.DGPS: - Differential Global PositioningSystem**  7.2.1.Base StationSetup  7.2.2.Rover GPS Setup 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 7.2.6.Sequence to export post process GPSdata  7.2.7.Sequence to export GPS Time tags tofile |
| 01/06/2022 | 1 | **7.3.ETS: - Electronic TotalStation**  7.3.1..1DistanceMeasurement  7.3.2.AngleMeasurement  7.3.3.Leveling 7.3.4.Determiningposition  7.3.5.Referencenetworks |
| 02/06/2022 | 1 | 7.3.6.ErrorsandAccuracy |
| 14TH | 06/06/2022 | 1 | 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 |
| 07/06/2022 | 2 | 8.3.Spatial DataModel  8.4.Attribute Data Management and MetadataConcept 8..5.Prepare data and adding to ArcMap.  8.6.Organizingdata aslayers.8.7.Editing the layers.  8.8.Switchingto LayoutView.  8.9..Changepageorientation. |
| 08/06/2022 | 1 | 8.10.RemovingBorders.  8.11.Adding and editing mapinformation Previous year question discussion  8.12. Finalize themap |
| 09/06/2022 | 1 | Questions Discussion |