BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

|  |  |
| --- | --- |
| SUBJECT: LAND SURVEY– II (TH I) | ACCADEMIC SESSION: 2021-22 |
| FACULTY: SRI KSHITISH KUMAR SAHOO | SEMESTER: 6TH |
|  | SEC: B |

|  |
| --- |
| Sd/- |
| H O D (Civil Engg.) |

|  |  |  |  |
| --- | --- | --- | --- |
| **Discipline:**  **Civil Engineering** | **Semester/ Section: 6TH/ B** | | **Name of the teaching faculty:**  **SRI KSHITISH KUMAR SAHOO** |
| **Subject:**  **TH 1 - LAND SURVEY– II** | **No. of Days/ per week class allotted: 05 period per week. (Mon,Wed, Thu, Fri – 2 periods on Wednesday)** | | **Semester From Date: 10-03-2022 To Date: 10-06-2022**  **No. of weeks: 14** |
| **Week** | **Class Day** | **No of period available** | **Theory Topics** |
| 1st | 10-03-2022 | 1 | **1 TACHEOMETRY:** 1.1 Principles. |
| 11-03-2022 | 1 | 1.1. stadia constantsdetermination |
| 2nd | 14-03-2022 | 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. |
| 17-03-2022 | 1 | Numerical problems |
| 3rd | 21-03-2022 | 1 | 1.3. Elevations and distances of staff stations – numericalproblems |
| 23-03-2022 | 2 | Numericalproblems |
| 24-03-2022 | 1 | 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 | Numerical problems |
| 30-03-2022 | 2 | 2.3. Preparationof curve table for settingout  2.4. Settingout of circular curve by chain and tape and by instrument angular methods (i) offsets from long chord |
| 31-03-2022 | 1 | ­Class test 1 |
| 5th | 04-04-2022 | 1 | 2.4. Setting out of circular curve by (ii) Successive bisection of arc,  (iii) Offsets from tangent |
| 06-04-2022 | 2 | 2.4. Setting out of circular curve by(iv)offsets from chord produced, (v) Rankine’s method of tangent angles. |
| 07-04-2022 | 1 | 2.5. Obstacles in curve ranging – point of intersectioninaccessible. |
| 08-04-2022 | 1 | Numerical problems on 2.5 |
| 6th | 11-04-2022 | 1 | 3.1. Fractionalor Ratio Scale, Linear Scale, GraphicalScale 3.2. What is Map |
| 13-04-2022 | 2 | 3.3. Map Scale and MapProjections.  3.3How Maps Convey Location andExtent  3.4. How Maps Convey characteristics offeatures  3.5. How Maps Convey SpatialRelationship |
| 7TH | 18-04-2022 | 1 | 3.6. ClassificationofMaps  3.6.1. Physical Map 3.6.2Topographic Map  3.6.3. RoadMap |
| 20-04-2022 | 2 | 3.6.4. PoliticalMap  3.6.5. Economic&ResourcesMap  3.6.6. ThematicMap  3.6.7. ClimateMap |
| 21-04-2022 | 1 | **4 SURVEY OF INDIA MAP SERIES:**  4.1. OpenSeriesmap  4.2. Defense SeriesMap |
| 22-04-2022 | 1 | 4.3. MapNomenclature |
| 8TH | 25-04-2022 | 1 | 4.3.1QuadrangleName |
| 27-04-2022 | 2 | 4.3.2. Latitude, Longitude & UTM |
| 28-04-2022 | 1 | 4.3.3. Contour Lines  4.3.4. MagneticDeclination |
| 29-04-2022 | 1 | Class test 2 |
| 9TH | 02-05-2022 | 1 | 4.3.5. Public Land SurveySystem |
| 04-05-2022 | 2 | 4.3.6. FieldNotes |
| 05-05-2022 | 1 | **5.1. AerialPhotography:**  5.1.1. Film, Focal Length,Scale |
| 06-05-2022 | 1 | 5.1.2. Types of Aerial Photographs (Oblique,Straight) |
| 10TH | 09-05-2022 | 1 | Internal assessment |
| 11-05-2022 | 2 | 5.2. Photogrammetry:  5.2.1. ClassificationofPhotogrammetry  5.2.2. AerialPhotogrammetry |
| 12-05-2022 | 1 | 5.2.3. TerrestrialPhotogrammetry |
| 13-05-2022 | 1 | 5.3. **Photography process**  5.3.1. Acquisitionof Imagery using aerial and satelliteplatform |
| 11TH | 18-05-2022 | 2 | 5.3.2. ControlSurvey  5.3.3. Geometric Distortion inImagery, Applicationof Imagery and its support data orientation and triangulationstereoscopicmeasurement  5.4.DTM/DEMGeneration  5.5. OrthoImageGeneration |
| 19-05-2022 | 1 | 6.1. Principles, features and use of (i) Micro-optic theodolite, digitaltheodolite |
| 20-05-2022 | 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 |
| 25-05-2022 | 2 | 6.2 Continue |
| 26-05-2022 | 1 | 7.1.GPS: - GlobalPositioning  7.1.1. WorkingPrinciple of GPS, GPSSignals,  7.1.2. Errors of GPS,Positioning Methods |
| 27-05-2022 | 1 | Class test 3 |
| 13TH | 01-06-2022 | 2 | **7.2. DGPS: - Differential Global PositioningSystem**  7.2.1. Base StationSetup  7.2.2. RoverGPS Setup 7.2.3. Download, Post-Process and Export GPSdata  7.2.4. Sequenceto download GPS data fromflashcards  7.2.5. Sequenceto Post-Process GPSdata  7.2.6. Sequenceto export post process GPSdata  7.2.7. Sequenceto export GPS Time tags tofile |
| 02-06-2022 | 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 |
| 03-06-2022 | 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 |
| 08-06-2022 | 2 | 8.3. Spatial DataModel  8.4. Attribute Data Management and MetadataConcept  8..5. Preparedata and adding to ArcMap.  8.6. Organizingdata aslayers.  8.7. Editingthe layers.  8.8. Switchingto LayoutView.  8.9. Changepageorientation.  8.10. RemovingBorders.  8.11. Addingand editing mapinformation Previous year question discussion  8.12. Finalize themap |
| 09-06-2022 | 1 | Revision |
| 10-06-2022 | 1 | Previous year question solvings |