BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK

DEPARTMENT OF CIVIL ENGINEERING



LESSON PLAN

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

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

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| **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 settingout2.4. 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 andExtent3.4. How Maps Convey characteristics offeatures3.5. How Maps Convey SpatialRelationship |
| 7TH | 18-04-2022 | 1 | 3.6. ClassificationofMaps3.6.1. Physical Map 3.6.2Topographic Map 3.6.3. RoadMap |
| 20-04-2022 | 2 | 3.6.4. PoliticalMap 3.6.5. Economic&ResourcesMap3.6.6. ThematicMap 3.6.7. ClimateMap |
| 21-04-2022 | 1 | **4 SURVEY OF INDIA MAP SERIES:**4.1. OpenSeriesmap4.2. 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. ClassificationofPhotogrammetry5.2.2. 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. ControlSurvey5.3.3. Geometric Distortion inImagery, Applicationof Imagery and its support data orientation and triangulationstereoscopicmeasurement5.4.DTM/DEMGeneration5.5. 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: - GlobalPositioning7.1.1. 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 StationSetup7.2.2. RoverGPS Setup 7.2.3. Download, Post-Process and Export GPSdata7.2.4. Sequenceto download GPS data fromflashcards7.2.5. Sequenceto Post-Process GPSdata7.2.6. Sequenceto export post process GPSdata7.2.7. Sequenceto export GPS Time tags tofile |
| 02-06-2022 | 1 | **7.3.ETS: - Electronic TotalStation**7.3. 1..1DistanceMeasurement7.3.2. AngleMeasurement7.3.3. Leveling7.3.4. Determiningposition7.3.5. Referencenetworks |
| 03-06-2022 | 1 | 7.3.6. ErrorsandAccuracy |
| 14TH | 06-06-2022 | 1 | 8.1. Components of GIS, Integration of Spatial and AttributeInformation8.2Three Views of InformationSystem 8.2.1Database or Table View, Map View and ModelView |
| 08-06-2022 | 2 | 8.3. Spatial DataModel8.4. 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 discussion8.12. Finalize themap |
| 09-06-2022 | 1 | Revision |
| 10-06-2022 | 1 | Previous year question solvings |