**USHARAMA COLLEGE OF ENGINEERING&TECHNOLOGY**

Department of civil engineering

**Lesson plan**

**Sub: SURVEYING Year: II Sem: I SECTION: B**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.no** | **Topics to be covered** | **Cumulative periods** | **Date** |
| **UNIT-I{9}** | | | |
| **1** | **INTRODUCTION** | **1** | **13-06-16** |
| **2** | definition-Uses of surveying, classifications | **2-3** | **13-06-16 TO**  **14-06-16** |
| **3** | overview of planesurveying-CHAIN SURVEY- Objectives, Principles and classifications | 4-5 | **15-06-16 TO**  **17-06-16** |
| **4** | compass surveying- Objectives, Principles and classifications | **6** | **20-06-16** |
| **5** | plane table surveying- Objectives, Principles and classifications | **7** | **20-06-16** |
| **6**  **7** | Errors in survey measurements  **Assignment on unit-I** | **8**  **9** | **21-06-16**  **22-06-16** |
| **UNIT-II{18}** | | | |
| **8** | **DISTANCES AND DIRECTION:** | **10** | **24-06-16** |
| **9** | Distance measurement conventions andmethods; | **11-12** | **24-06-16 TO**  **27-06-16** |
| **10** | use of chain and tape | **13** | **27-06-16** |
| **11** | Electronic distance measurements (EDM)-principles of of electro optical EDM | **14-15** | **28-06-16 TO**  **29-06-16** |
| **12** | errors and corrections to linear measurements | **16** | **1-07-16** |
| **13** | compass survey | **17-19** | **1-07-16 TO**  **4-07-16** |
| **14** | Meridians, Azimuths and Bearings, declination, computation of angle. | **20-23** | **5-07-16 TO**  **11-07-16** |
| **15** | Traversing - Purpose-types of traverse- traverse computation - traverse adjustments - omitted measurements. | **24-26** | **11-07-16 TO**  **13-07-16** |
| **16** | **Assignment on unit-II** | **27** | **15-07-16** |
| **UNIT-III{19}** | | | |
| **17** | **LEVELING AND CONTOURING:** Concept and Terminology | **28** | **15-07-16** |
| **18** | LevellingInstruments and their Temporary and permanent adjustments | **29** | **18-07-16** |
| **19** | method of levelling. | **30-34** | **18-07-16 TO**  **22-07-16** |
| **20** | Characteristics and Uses of contours | **35** | **25-07-16** |
| **21** | methods of conducting contour surveys and their plotting. | **36-37** | **25-07-16 TO**  **26-07-16** |
| **22** | **Assignment on unit-II** | **38** | **27-07-16** |
| **23** | **PREPARATION AND REVISION FOR MID-I** | **39-46** | **29-07-16 TO**  **05-08-16** |
| **UNIT-IV{15}** | | | |
| **24** | **THEODOLITE:** Theodolite, description | **47** | **16-08-16** |
| **25** | principles-uses and adjustments –temporary and permanent, | **48** | **17-08-16** |
| **26** | measurement of horizontal and vertical angles | **49-51** | **19-08-16 TO**  **19-08-16** |
| **27** | Principles of Electronic Theodolite | **52** | **22-08-16** |
| **28** | Trigonometrical leveling,. | **53-54** | **23-08-16** |
| **29** | **TACHEOMETRIC SURVEYING:** Stadia and tangential methods ofTacheometry. | **55-57** | **24-08-16 TO**  **26-08-16** |
| **30** | Stadia and tangential methods ofTacheometry | **58** | **29-08-16** |
| **31** | Distance and Elevation formulae for Staff vertical position. | **59-60** | **29-08-16 TO**  **30-08-16** |
| **32** | **Assignment on unit- IV** | **61** | **31-08-16** |
| **UNIT-V{10}** | | | |
| **33** | **Curves:** Types of curves, | **62** | **2-09-16** |
| **34** | design and setting out | **63-64** | **2-09-16 TO**  **6-9-16** |
| **35** | simple and compoundcurves | **65** | **7-09-16** |
| **36** | transition curves | **66-67** | **9-09-16 TO**  **9-09-16** |
| **37** | Introduction to geodetic surveying | **68** | **13-09-16** |
| **38** | Total Station and Global positioning system. | **69-70** | **14-09-16 TO**  **16-09-16** |
| **39** | **Assignment on unit-V** | **71** | **16-09-16** |
| **UNIT-VI{17}** | | | |
| **40** | **COMPUTATION OF AREAS AND VOLUMES:** | **72** | **19-09-16** |
| **41** | Area from field notes | **73** | **19-09-16** |
| **42** | computation of areas along irregular boundaries and area consisting of regular boundaries | **74-78** | **20-09-16 TO**  **26-09-16** |
| **43** | Embankments and cutting for a level section and two level sections with and without transverse slopes | **79-80** | **26-09-16 TO**  **27-09-16** |
| **44** | determination of the capacity of reservoir | **81** | **28-09-16 TO** |
| **45** | volume of barrow pits. | **82** | **30-09-16** |
| **46** | **Assignment on unit-VI** | **83** | **03-10-16** |
| **47** | **PREPARATION AND REVISION FOR MID-II** | **84-88** | **03-10-16 TO**  **07-10-16** |

**Text books:**

* Surveying (Vol No.1, 2 &3 ) by B.C.Punmia, Ashok Kumar Jain and Arun Kumar Jain – Laxmi Publications (P)ltd, New Delhi.
* Advance Surveying by Satish Gopi, R. Sathi Kumar and N. Madhu, Pearson Publications.
* Text book of Surveying by C. Venkataramaiah, University press, India (P) limited.
* Surveying and levelling by R. Subramanian, Oxford University press.

**References:**

* Text book of Surveying by S.K. Duggal (Vol No. 1&2), Tata McGraw Hill Publishing Co. Ltd. New Delhi.
* Text book of Surveying by Arora (Vol No. 1&2), Standard Book House, Delhi.
* Higher Surveying by A.M. Chandra, New Age International Pvt ltd.
* Fundamentals of surveying by S.K. Roy – PHI learning (P) Ltd.
* Plane Surveying by Alak de, S. Chand & Company, New Delhi.

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