TCET/FRM/IP-02/09 Revision: A

Semester Plan
(Theory)

Semester: **SE- III** Course: **CIVIL**
Subject: **Surveying- I** Class: **S.E B**

Faculty In-Charge**: Ms. Chaitaly Mehta**

Note: **The Lectures are planned as per University Curriculum**

Pre-requisite / Bridge Course:

S. No	Pre-requisite / Bridge Course	Duration (Weeks/Hours)	Modes of Learning	Recommended Sources
1.	Surveying and Levelling	4 Hours	Self-Learning	1. Surveying and Levelling: *N N Basak*, Tata McGraw Hill, New Delhi. 2. Surveying*: R. Agor*, Khanna Publishers.

Class Room Teaching / Syllabus:

S. No	Module No	Lesson No	Topics Planned (Technology to be used)	Teaching Aids Required	Planned / Completion Date	Resource / Reference Book	Remarks
1	Module 1	L 1.1	Definition, Principles, Object, Uses, various types of surveying, classification.	LCD Projector /Black Board	21st July		
2	Module 1	L 1.2	Chain Surveying, Study of ranging, Accessories used in surveying.	LCD Projector /Black Board	26th July		
3	Module 1	L 1.3	Electronic Distance Measurement: Working Principles, types, applications in surveying	LCD Projector /Black Board	28th July		
4	Module 2	L 2.1	Basic definitions, meridians, bearings, magnetic and true bearings, compasses, prismatic and surveyor's, temporary adjustments, declination, dip, local attraction	LCD Projector /Black Board	2nd Aug		
5	Module 2	L 2.1	Contouring: definitions, contour interval, equivalent, uses and characteristics of contour lines, direct and indirect methods of contouring, Grade contour	LCD Projector /Black Board	7th Aug		
6	Module 2	L 2.2	Types of traverse, procedures, control establishments, Conversion of WCB into RB and vice-versa, Traverse Survey and Computations of interior angles of a closed Traverse. Adjustment of closing error, correction for local attraction.	LCD Projector /Black Board	11th Aug		
7	Module 3	L 3.1	Introduction to levelling, basic terms and definitions, types of instruments, construction and use of dumpy level, auto level, digital level and laser level in construction industry,	LCD Projector /Black Board	14th Aug		

			principle axes of dumpy level, temporary and permanent adjustments				
8	Module 3	L 3.2	Booking and reduction of levels, plane of collimation (HI) and rise-fall methods, computation of missing data, distance to the visible horizon, corrections due to curvature and refraction, reciprocal levelling, Numerical problems	LCD Projector /Black Board	16th Aug		
9	Module 3	L 3.3	Differential levelling, profile levelling, fly levelling, check levelling, precise levelling, sources of errors, difficulties in levelling work, corrections and precautions in levelling work.	LCD Projector /Black Board	18th Aug		
10	Module 4	L 4.1	Plane Table Surveying: Definition, principles, accessories required for plane table surveying, merits and demerits, temporary adjustments, Different methods of plane table surveying, Errors in plane table surveying, Use of telescopic alidade	LCD Projector /Black Board	28th Aug		
11	Module 4	L 4.2	Contouring: definitions, contour interval, equivalent, uses and characteristics of contour lines, direct and indirect methods of contouring. Grade contour: definition and use.	LCD Projector /Black Board	1st Sep		
12	Module 4	L 4.3	Area: Area of an irregular figure by trapezoidal rule, average ordinate rule, Simpson's 1/3 rule, various coordinate methods. Planimeter: types including digital planimeter, area of zero circle, uses of planimeter.	LCD Projector /Black Board	4th Sep		
13	Module 4	L 4.4	Volume: Computation of volume by trapezoidal and prismoidal formula, volume from spot levels, volume from contour plans	LCD Projector /Black Board	8th Sep		
14	Module 5	L 5.1	Various parts and axis of transit, technical terms, temporary and permanent adjustments of a transit, horizontal and vertical angles, methods of repetition and reiteration.	LCD Projector /Black Board	11th Sep		
15	Module 5	L 5.2	Different methods of running a theodolite traverse, Latitudes and departures, rectangular coordinates, traverse adjustments by Bowditch's, transit and modified transit	LCD Projector /Black Board	13th Sep		

			rules, Gales Traverse Table, Numerical Problems.				
16	Module 5	L 5.3	Use of theodolite for various works such as prolongation of a straight line, setting out an angle, bearing measurements Problems in using theodolite traversing, errors in theodolite traversing; Trigonometrical Levelling: Problems on one plane and two plane methods,	LCD Projector /Black Board	15th Sep		
17	Module 6	L 6.1	Principle, purpose, uses, advantages and suitability of tacheometry, different methods of tacheometry, stadia formula, Stadia diagram and tables. Sub-tense bar method	LCD Projector /Black Board	25th Sep		
18	Module 6	L 6.2	Application in plane table and curve setting.	LCD Projector /Black Board	4th Oct		
19	Module 6	L 6.3	Radial Contouring.	LCD Projector /Black Board	6th Oct		
20			Revision / Tutorial / Practice Session for Internetworking & Network Protocols	LCD Projector / Black Board	16th Oct		
21			Revision / Tutorial / Practice Session for Network Design	LCD Projector / Black Board	18th Oct		
22			Revision / Tutorial / Practice Session for Network Design	LCD Projector / Black Board	20th Oct		
23			University Paper Discussion	LCD Projector / Black Board	20th Oct		

Remedial Assignments & Compliance (for Defaulter Students)**:**

Note:

1. The Remedial Assignments & Compliance for defaulter students is to be conducted **every Friday** from **4:30 PM to 6:30 PM.**
2. The **faculty** should **conduct, evaluate and notify the students** regarding the Remedial Assignments **within 15 days** of the display of attendance.

Criteria / S. No	Less than 50 % Attendance	More than 50 % and Less than 65% Attendance	More than 65 % and Less than 75% Attendance
1.	**3** Remedial Assignments from **Module 1** and **Module 2**	**2** Remedial Assignments from **Module 1** and **Module 2**	**1** Remedial Assignments from **Module 1** and **Module 2**
2.	**3** Remedial Assignments from **Module 3** and **Module 4**	**2** Remedial Assignments from **Module 3** and **Module 4**	**1** Remedial Assignments from **Module 3** and **Module 4**
3.	**3** Remedial Assignments from **Module 5** and **Module 6**	**2** Remedial Assignments from **Module 5** and **Module 6**	**1** Remedial Assignments from **Module 5** and **Module 6**

Remarks:

Course:	**Syllabus Coverage:**	**Practice Session:**	**Beyond Syllabus:**

Issued By: MR	Approved By: Principal

No. of (lectures planned) / (lectures taken): 52 /

Advanced Course:

S. No	Advanced Course	Duration (Weeks/Hours)	Modes of Learning	Recommended Sources
1.	Digital Land Surveying and Mapping	8 Weeks	Online course with Self-Learning	www.nptel.ac.in

Text Books:

1. Surveying and Levelling: Vol-I and II: *Kanetkar and Kulkarni*, Pune Vidyarthi Griha, Pune.
2. Surveying and Levelling: *N N Basak*, Tata McGraw Hill, New Delhi.
3. Surveying*: R. Agor*, Khanna Publishers.

Reference Books:

1. Surveying: Vol-I: *Dr K.R. Arora*, Standard Book House.
2. Surveying and Levelling (2nd Edition): *R. Subramanian*; Oxford Higher Education.
3. Surveying and levelling (Vol.-I): *Dr. B.C. Punmia*, Laxmi Publications.
4. Surveying and Levelling (Vol.-I):*S. K.Duggal*, Tata Mc-Graw Hill

Digital References:

1.

Note:

1. Plan date and completion date should be in compliance
2. Courses are required to be taught with emphasis on resource book, course file, text books, reference books, digital references etc.
3. Planning is to be done for 15 weeks where 1st week will be AOP, 2nd -13th for effective teaching and 14th -15th week for effective university examination oriented teaching, mock practice session and semester consolidation.
4. According to university syllabus where lecture of 4 hrs/per week is mentioned minimum 55 hrs and in case of 3 lectures per week minimum 45 lectures are to be engaged are required to be engaged during the semester and therefore accordingly semester planning for delivery of theory lectures shall be planned.
5. In order to improve score in NBA, faculty members are also required to focus course teaching beyond university prescribed syllabus and measuring the outcomes w.r.t learning course and programme objectives.
6. Text books and reference books are available in syllabus. Here only additional references w.r.t. non –digital/ digital sources can be written (if applicable)
7. Technology to be used in class room during lecture shall be written below the topic planned within the bracket.

Name & Signature of Faculty
Date:

Signature of HOD
Date:

Signature of Principal / Dean Academic
Date: