CE 207 SURVEYING

COURSE PLAN			
Module	**Contents**	**Hours**	**Sem.Exam Marks %**
I	**Introduction to Surveying**- Principles, Linear, angular and graphical methods, Survey stations, Survey lines- ranging, Bearing of survey lines, Local attraction, Declination, Dip, Latitude and Departure, Methods of orientation, Principle of resection	7	15
II	**Levelling:** Principles of levelling- Dumpy level- booking and reducing levels, Methods- simple, differential, reciprocal leveling, profile levelling and cross sectioning. Digital and Auto Level, Errors in levelling **Contouring**: Characteristics, methods, uses.	7	15
FIRST INTERNAL EXAMINATION			
III	**Area and Volume**: Various methods of computation. **Theodolite survey**: Instruments, Measurement of horizontal and vertical angle. **Mass diagram**: Construction, Characteristics and Uses.	6	15
IV	**Triangulation:** Triangulation figures, Strength of figure, Triangulation stations, Inter visibility of stations, Towers and signals – Satellite Stations and reduction to centre.	8	15
SECOND INTERNAL EXAMINATION			
V	**Theory of Errors** – Types, theory of least squares, Weighting of observations, Most probable value, Application of weighting, Computation of indirectly observed quantities - method of normal equations.	8	20
VI	**Electromagnetic distance measurement (EDM) –** Principle of EDM, Modulation, Types of EDM instruments, Distomat **Total Station –** Parts of a Total Station – Accessories – Advantages and Applications, Introduction to Astronomical terms, Field Procedure for total station survey, Errors in Total Station Survey.	6	20
END SEMESTER EXAMINATION			

Text Books

1. Surveying and Levelling: Prof. T.P Kanetkar
2. Surveying and Levelling ; N.N Basak