

Friday, 23 October 2009 11:19 - Last Updated Friday, 23 October 2009 11:29

Written by Administrator

Exam Hours : 03 Total Hrs. 52 **Exam Marks** 100

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Friday, 23 October 2009 11:19 - Last Updated Friday, 23 October 2009 11:29 PART - A **UNIT 1:** 1.1 Definition of Surveying, 1.2 Classification of Surveys, 1.3 Uses of Surveying Units of Measurements, 1.4 Map & Classification, 1.5 Survey of India topographical Maps and their numbering., 1.6 Basic principles of surveying, 1.7 Errors, Classification, 1.8 Precision and accuracy. 04 Hours **UNIT 2:** Measurement of horizontal distances. 2.1 Chain and types, 2.2 Tape and types, 2.3 EDM devices, 2.3 Ranging of lines 2.4 Direct and Indirect, 2.5 Measurement of distances over sloping grounds, 2.6 Chain and Tape corrections -Numerical problems.

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Friday, 23 October 2009 11:19 - Last Updated Friday, 23 October 2009 11:29 5 Hours **UNIT 3: Chain Surveying** Accessories required, 3.2 Selection of stations and lines, 3.3 Offsets and types 3.4 Setting out of right angles, 3.5 Working principle and use of optical square, prism square, cross staff., 3.6 Linear methods of setting out right angles, 3.7 Booking of chain survey work, 3.8 Field book, entries, conventional symbols, 3.9 Obstacles in chain survey, Numerical problems, 3.10 Errors in chain survey and precautions o be taken. 7 Hours **UNIT 4: Compass Surveying** 4.1 Meridians and bearings, 4.2 Principle, working and use of - Prismatic compass 4.3 Surveyor's compass, 4.4 Magnetic bearing, true bearings, 4.5 WCB and Reduced bearing. 4.6 Dip and Declination

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8 Hours

Friday, 23 October 2009 11:19 - Last Updated Friday, 23 October 2009 11:29 4.7 Accessories required for compass surveying, 4.8 Traverse - closed and open traverse 4.9 Computation of bearings of legs of closed traverse given the bearing of one of the legs, 4.10 Computation of included angles given the bearings of legs of a closed traverse. 6 Hours PART - B **UNIT 5:** Compass Traversing continued.... 5.1 Local attraction, determination and corrections, 5.2 Dependent and independent co-ordinates, 5.3 Checks for closed traverse and determination of closing error and its direction 5.4 Bowditch's graphical method of adjustment of closed traverse, 5.5 Bowditch's rule and transit rule, 5.6 Omitted measurements (Only Length and corresponding bearing of one line). 000000000000000

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UNIT 6:
Introduction to Levelling
introduction to Leveling
6.1 Principles and basic definitions, 6.2 Fundamental axes and part of a dumpy level, 6.3
Types of adjustments and objectives, 6.4 Temporary adjustments of a dumpy level, 6.5
Sensitiveness of bubble tube, 6.6 Curvature and refraction correction, 6.7 Type of leveling,
6.8 Simple leveling, 6.9 Reciprocal leveling, 6.10 Profile leveling, 6.11 Cross sectioning, 6.12
Fly leveling,
7 Hours
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UNIT 7:

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Reduction of Levelling continued
7.1 Booking of levels 7.2 Rise and fall method and Height of instrument method 7.3 comparison Arithmetic checks 7.4 Fly back leveling., 7.5 Errors and precautions.
6 Hours
Contouring
7.6 Contours and their characteristics, 7.7 Methods of contouring, 7.8 direct and indirect methods, 7.9 Interpolation techniques, 7.10 Uses of contours 7.11 Numerical problems on determining intervisibility, 7.12 Grade contours and uses.
4 Hours
UNIT 8:
Plane Table Surveying

REFERENCE BOOKS:

Written by Administrator Friday, 23 October 2009 11:19 - Last Updated Friday, 23 October 2009 11:29 8.1 Plane table and accessories, 8.2 Advantages and limitations of plane table survey, 8.3 Orientation and methods of orientation, 8.4 Methods of plotting - Radiation, Intersection, Traversing, 8.5 Resection method, 8.6 Two point and three point problems, 8.7 Solution to two point problem by graphical method, 8.8 Solution to three point problem Bessel's graphical method, 8.9 Errors in plane table survey. 5 Hours **TEXT BOOKS:** 1. 'Surveying' Vol-1 - B.C. Punmia, Laxmi Publications, New Delhi. 2. 'Plane Surveying' Vol-1-A.M. Chandra, Newage International ® Ltd. 'Plane Surveying' - ALAK, S. Chand and Company Ltd., New Delhi.

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- 1. **Fundamentals of Surveying -** Milton O. Schimidt Wong, Thomson Learning.
- 2. Fundamentals of Surveying S.K. Roy Prentice Hall of India.
- 3. **Surveying** Vol. I, S.K. Duggal, Tata McGraw Hill Publishing Co. Ltd., New Delhi.
- * Survey of India Publication on maps.