SUBJECT NAME- LAND SURVEY-I (TH-3) TOTAL NO. OF WEEK-11

SEMESTER-4TH TOTAL PERIODS-48 CLASSES ALLOTTED PER WEEK-5

NAME OF TEACHING FACULTY – **GIRIJA PRASAD DAS** SESSION-(2020-2021) WINTER

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| **Week & Date** | | **No of Periods Available** | **Topics to be covered** | **Topics actually covered** | **If any Shortfall** | **Reason of shortfall** | **How to make up** | **Remarks/Signature with date** |
| 1ST | 19/04/21 | 2 | INTRODUCTION TO SURVEYING, LINEAR MEASUREMENTS:  1.1 Surveying: Definition, Aims and objectives  1.2 Principles of survey-Plane surveying- Geodetic Surveying- Instrumental surveying | INTRODUCTION TO SURVEYING, LINEAR MEASUREMENTS:  1.1 Surveying: Definition, Aims and objectives  1.2 Principles of survey-Plane surveying- Geodetic Surveying- Instrumental surveying | Nil |  |  |  |
| 22/04/21 | 1 | 1.3 Precision and accuracy of measurements, instruments used for measurement of distance, Types of tapes and chains. | 1.3 Precision and accuracy of measurements, instruments used for measurement of distance | Types of tapes and chains. |  |  |  |
| 23/04/21 | 2 | 1.4 Errors and mistakes in linear measurement – classification, Sources of errors and remedies.  1.5 Corrections to measured lengths due to-incorrect length, temperature variation, pull, sag, numerical problem applying corrections | Types of tapes and chains.  1.4 Errors and mistakes in linear measurement – classification, Sources of errors and remedies | 1.5 Corrections to measured lengths due to-incorrect length, temperature variation, pull, sag, numerical problem applying correction |  |  |  |
| 2ND | 26/04/21 | 2 | CHAINING AND CHAIN SURVEYING :  2.1 Equipment and accessories for chaining  2.2 Ranging – Purpose, signaling, direct and indirect ranging, Line ranger –features and use, error due to incorrect ranging.  2.3 Methods of chaining –Chaining on flat ground, Chaining on sloping ground –stepping method, Clinometer features and use, slope correction. | 1.5 Corrections to measured lengths due to-incorrect length, temperature variation, pull, sag, numerical problem applying correction CHAINING AND CHAIN SURVEYING :  2.1 Equipment and accessories for chaining  2.2 Ranging – Purpose, signaling, direct and indirect ranging | Line ranger –features and use, error due to incorrect ranging.  2.3 Methods of chaining –Chaining on flat ground, Chaining on sloping ground –stepping method, Clinometer features and use, slope correction. |  |  |  |
| 29/04/21 | 1 | .2.4 Setting perpendicular with chain & tape, Chaining across different types of obstacles –Numerical problems on chaining across obstacles.  2.5 Purpose of chain surveying, Its Principles, concept of field book.  Selection of survey stations, base line, tie lines, Check lines. | Line ranger –features and use, error due to incorrect ranging  2.3 Methods of chaining –Chaining on flat ground, Chaining on sloping ground  stepping method, Clinometer features and use, slope correction | 2.4 Setting perpendicular with chain & tape, Chaining across different types of obstacles –Numerical problems on chaining across obstacles.  2.5 Purpose of chain surveying, Its Principles, concept of field book.  Selection of survey stations, base line, tie lines, Check lines |  |  |  |
| 30/04/21 | 2 | 2.7 Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square  .2.8 Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying | .2.4 Setting perpendicular with chain & tape, Chaining across different types of obstacles –Numerical problems on chaining across obstacles | 2.5 Purpose of chain surveying, Its Principles, concept of field book.  Selection of survey stations, base line, tie lines, Check line  2.7 Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square  .2.8 Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying |  |  |  |
| 3RD | 03/05/21 | 2 | ANGULAR MEASUREMENT AND COMPAS SURVEYING :3.1 Measurement of angles with chain, tape & compass3.2 Compass – Types, features, parts, merits & demerits, testing & adjustment of compass | 2.5 Purpose of chain surveying, Its Principles, concept of field book.  Selection of survey stations, base line, tie lines, Check lines  2.7 Offsets – Necessity, Perpendicular and Oblique offsets, Instruments for setting offset – Cross Staff, Optical Square. | .2.8 Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken  ANGULAR MEASUREMENT AND COMPAS SURVEYING :3.1 Measurement of angles with chain, tape & compass3.2 Compass – Types, features, parts, merits & demerits, testing & adjustment of compass |  |  |  |
| 06/05/21 | 1 | 3.3 Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing, Reduced bearing, suitability of application, numerical problems on conversion of bearings | 2.8 Errors in chain surveying – compensating and accumulative errors causes & remedies, Precautions to be taken during chain surveying | ANGULAR MEASUREMENT AND COMPAS SURVEYING :3.1 Measurement of angles with chain, tape & compass  3.2 Compass – Types, features, parts, merits & demerits, testing & adjustment of compass  3.3 Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing, Reduced bearing, suitability of application, numerical problems on conversion of bearings |  |  |  |
| 07/05/21 | 2 | 3.4 Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing, Numerical problems on computation of interior & exterior angles from bearings.  3.5 Effects of earth’s magnetism – dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination | ANGULAR MEASUREMENT AND COMPAS SURVEYING :3.1 Measurement of angles with chain, tape & compass3.2 Compass – Types, features, parts, merits & demerits, testing & adjustment of compass | 3.3 Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing, Reduced bearing, suitability of application, numerical problems on conversion of bearings  3.4 Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing, Numerical problems on computation of interior & exterior angles from bearings.  3.5 Effects of earth’s magnetism – dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination |  |  |  |
| 4TH | 10/05/21 | 2 | 3.6 Errors in angle measurement with compass – sources & remedies.3.7 Principles of traversing – open & closed traverse, Methods of traversing.3.8 Local attraction – causes, detection, errors, | 3.3 Designation of angles- concept of meridians – Magnetic, True, arbitrary; Concept of bearings – Whole circle bearing, Quadrantal bearing, Reduced bearing, suitability of application, numerical problems on conversion of bearings | 3.4 Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing, Numerical problems on computation of interior & exterior angles from bearings.  3.5 Effects of earth’s magnetism – dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination  3.6 Errors in angle measurement with compass – sources & remedies.  3.7 Principles of traversing – open & closed traverse, Methods of traversing.  3.8 Local attraction – causes, detection, errors, |  |  |  |
| 13/05/21 | 1 | corrections, Numerical problems of application of correction due to local attraction.3.9 Errors in compass surveying – sources & remedies | 3.4 Use of compasses – setting in field-centering, leveling, taking readings, concepts of Fore bearing, Back Bearing Numerical problems on computation of interior & exterior angles from bearings | 3.5 Effects of earth’s magnetism – dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination  3.6 Errors in angle measurement with compass – sources & remedies.  3.7 Principles of traversing – open & closed traverse, Methods of traversing  3.8 Local attraction – causes, detection, errorscorrections, Numerical problems of application of correction due to local attraction.3.9 Errors in compass surveying – sources & remedies |  |  |  |
| 5TH | 17/05/21 | 2 | 3.9 Errors in compass surveying – sources & remedies.Plotting of traverse – check of closing error in closed & open traverse, Bowditch’s correction, Gales table  MAP READING CADASTRAL MAPS & NOMENCLATURE:4.1 Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols4.2 Cadastral Map Preparation Methodology | 3.5 Effects of earth’s magnetism – dip of needle, magnetic declination, variation in declination, numerical problems on application of correction for declination  3.6 Errors in angle measurement with compass – sources & remedies | 3.7 Principles of traversing – open & closed traverse, Methods of traversing  3.8 Local attraction – causes, detection, errorscorrections, Numerical problems of application of correction due to local attraction.  3.9 Errors in compass surveying – sources & remedies  3.9 Errors in compass surveying – sources & remedies.Plotting of traverse – check of closing error in closed & open traverse, Bowditch’s correction, Gales table  MAP READING CADASTRAL MAPS & NOMENCLATURE:4.1 Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols4.2 Cadastral Map Preparation Methodology |  |  |  |
| 20/05/21 | 1 | 4.3 Unique identification number of parcel  4.4 Positions of existing Control Points and its types  4.5 Adjacent Boundaries and Features, Topology Creation and verification. | 3.7 Principles of traversing – open & closed traverse, Methods of traversing.  3.8 Local attraction – causes, detection, errors, correction | Numerical problems of application of correction due to local attraction.3.9 Errorsin compass surveying – sources & remedies  3.9 Errors in compass surveying – sources & remedies.Plotting of traverse – check of closing error in closed & open traverse, Bowditch’s correction, Gales table  MAP READING CADASTRAL MAPS & NOMENCLATURE:4.1 Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols4.2 Cadastral Map Preparation Methodology  4.3 Unique identification number of parcel  4.4 Positions of existing Control Points and its types  4.5 Adjacent Boundaries and Features, Topology Creation and verification. |  |  |  |
| 21/05/21 | 2 | PLANE TABLE SURVEYING  5.1 Objectives, principles and use of plane table surveying.  5.2 Instruments & accessories used in plane table surveying.  5.3 Methods of plane table surveying – (1) Radiation, | Numerical problems of application of correction due to local attraction.  3.9 Errors in compass surveying – sources & remedies. Plotting of traverse – check of closing error in closed & open traverse, Bowditch’s correction, Gales table | MAP READING CADASTRAL MAPS & NOMENCLATURE:4.1 Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols4.2 Cadastral Map Preparation Methodology  4.3 Unique identification number of parcel  4.4 Positions of existing Control Points and its types  4.5 Adjacent Boundaries and Features, Topology Creation  PLANE TABLE SURVEYING  5.1 Objectives, principles and use of plane table surveying.  5.2 Instruments & accessories used in plane table surveying.  5.3 Methods of plane table surveying – (1) Radiation, |  |  |  |
| 6TH | 24/05/21 | 2 | (2) Intersection, (3) Traversing, (4) Resection.5.4 Statements of TWO POINT and THREE POINT PROBLEM.Errors in plane table surveying and their corrections, precautions in plane table surveying. | MAP READING CADASTRAL MAPS & NOMENCLATURE:  4.1 Study of direction, Scale, Grid Reference and Grid Square Study of Signs and Symbols4.2 Cadastral Map Preparation Methodology | 4.3 Unique identification number of parcel  4.4 Positions of existing Control Points and its types  4.5 Adjacent Boundaries and Features, Topology Creation  PLANE TABLE SURVEYING  5.1 Objectives, principles and use of plane table surveying.  5.2 Instruments & accessories used in plane table surveying.  5.3 Methods of plane table surveying – (1) Radiation  (2) Intersection, (3) Traversing, (4) Resection.5.4 Statements of TWO POINT and THREE POINT PROBLEM.Errors in plane table surveying and their corrections, precautions in plane table survey |  |  |  |
| 27/05/21 | 1 | THEODOLITE SURVEYING AND TRAVERSING:  6.1 Purpose and definition of theodolite surveying  6.2 Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite | 4.3 Unique identification number of parcel  4.4 Positions of existing Control Points and its types | 4.5 Adjacent Boundaries and Features, Topology Creation  PLANE TABLE SURVEYING  5.1 Objectives, principles and use of plane table surveying.  5.2 Instruments & accessories used in plane table surveying.  5.3 Methods of plane table surveying – (1) Radiation  (2) Intersection, (3) Traversing, (4) Resection.5.4 Statements of TWO POINT and THREE POINT PROBLEM.Errors in plane table surveying and their corrections, precautions in prlane table survey  THEODOLITE SURVEYING AND TRAVERSING:  6.1 Purpose and definition of theodolite surveying 6.2 Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite |  |  |  |
| 28/05/21 | 2 | concept of vernier, reading a vernier, Temporary adjustment of theodolite  6.3 Concept of transiting –Measurement of horizontal and vertical angles.  6.4 Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite, Errors in Theodolite observations | 4.5 Adjacent Boundaries and Features, Topology Creation and verification  PLANE TABLE SURVEYING  5.1 Objectives, principles and use of plane table surveying.  5.2 Instruments & accessories used in plane table surveying | 5.3 Methods of plane table surveying – (1) Radiation  (2) Intersection, (3) Traversing, (4) Resection.5.4 Statements of TWO POINT and THREE POINT PROBLEM.Errors in plane table surveying and their corrections, precautions in prlane table survey  THEODOLITE SURVEYING AND TRAVERSING:  6.1 Purpose and definition of theodolite surveying 6.2 Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite  concept of vernier, reading a vernier, Temporary adjustment of theodolite  6.3 Concept of transiting –Measurement of horizontal and vertical angles.  6.4 Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite, Errors in Theodolite observations |  |  |  |
| 7TH | 31/05/21 | 2 | 6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse | 5.3 Methods of plane table surveying – (1) Radiation, (2) Intersection, (3) Traversing, (4) Resection.  5.4 Statements of TWO POINT and THREE POINT PROBLEM. | Errors in plane table surveying and their corrections, precautions in prlane table survey  THEODOLITE SURVEYING AND TRAVERSING:  6.1 Purpose and definition of theodolite surveying 6.2 Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite  concept of vernier, reading a vernier, Temporary adjustment of theodolite  6.3 Concept of transiting –Measurement of horizontal and vertical angles.  6.4 Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite, Errors in Theodolite observations  6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse |  |  |  |
| 03/06/21 | 1 | 6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths & bearings | Errors in plane table surveying and their corrections, precautions in plane table surveying  THEODOLITE SURVEYING AND TRAVERSING:  6.1 Purpose and definition of theodolite surveying | 6.2 Transit theodolite- Description features, component parts,Fundamental axes of a theodolite  concept of vernier, reading a vernier, Temporary adjustment of theodolite  6.3 Concept of transiting –Measurement of horizontal and vertical angles.  6.4 Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite, Errors in Theodolite observations  6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse  6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths & bearings |  |  |  |
| 04/06/21 | 2 | 6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problems6.8 Balancing of traverse – Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse. | 6.2 Transit theodolite- Description of features, component parts, Fundamental axes of a theodolite | 6.3 Concept of transiting –Measurement of horizontal and vertical angles.  6.4 Measurement of magnetic bearings, deflection angle, direct angle, setting out angles, prolonging a straight line with theodolite, Errors in Theodolite observations  6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse  6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths and bearing  6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problem  6.8 Balancing of traverse – Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse. |  |  |  |
| 8TH | 07/06/21 | 2 | LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis | 6.3 Concept of transiting –Measurement of horizontal and vertical angles  6.4 Measurement of magnetic bearings, deflection angle | 6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse  6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths and bearing  6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problems6.8 Balancing of traverse – Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse.  LEVELLING AND CONTOURING  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis |  |  |  |
| 10/06/21 | 1 | 7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI. | 6.5 Methods of theodolite traversing with – inclined angle method, deflection angle method, bearing method, Plotting the traverse by coordinate method, Checks for open and closed traverse | 6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths and bearing  6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problems6.8 Balancing of traverse – Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse.  LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI. |  |  |  |
| 11/06/21 | 2 | 7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction. | 6.6 Traverse computation – consecutive coordinates, latitude and departure, Gale’s traverse table, Numerical problems on omitted measurement of lengths & bearings | 6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problems6.8 Balancing of traverse – Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse.  LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction. |  |  |  |
| 9TH | 17/06/21 | 1 | 7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels. | 6.7 Closing error – adjustment of angular errors, adjustment of bearings, numerical problems6.8 Balancing of traverse | Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse.  LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction  Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels..  LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels. |  |  |  |
| 18/06/21 | 2 | 7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map, | Bowditch’s method, transit method, graphical method, axis method, calculation of area of closed traverse. | LEVELLING AND CONTOURING  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M.  7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing  cross sections from contour maps, locating proposal routes of roads / railway / canal on a contour map |  |  |  |
| 10TH | 21/06/21 | 2 | computation of volume of earthwork from contour map for simple structure.  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making | LEVELLING AND CONTOURING :  7.1 Definition and Purpose and types of leveling– concepts of level surface, Horizontal surface, vertical surface, datum, R. L., B.M. | 7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis  7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure.  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making |  |  |  |
| 24/06/21 | 1 | COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plans | 7.2 Instruments used for leveling, concepts of line of collimation, axis of bubble tube, axis of telescope, Vertical axis | 7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI  7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure.  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making  COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plan |  |  |  |
| 25/06/21 | 2 | 8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule. | 7.3 Levelling staff – Temporary adjustments of level, taking reading with level, concept of bench mark, BS, IS, FS, CP, HI | 7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, Numerical problems on reduction of levels applying both methods, Arithmetic checks  .7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making  COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plan  8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule. |  |  |  |
| 11TH | 28/06/21 | 2 | REVISION | 7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison | .7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making  COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plan  8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule. |  |  |  |
| CLASS TEST |
| Academic calander revised and attendance close date extended upto 31 july | | | | | | | | |
| 11th | 01/7/21 | 1 | 7.4 Field data entry – level Book – height of collimation method and Rise & Fall method, comparison, | Numerical problems on reduction of levels applying both methods, Arithmetic checks | 7.5 Effects of curvature and refraction, numerical problems on application of correction  7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure.  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making  COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plan  8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule. |  |  |  |
| 02/07/21 | 2 | Numerical problems on reduction of levels applying both methods, Arithmetic checks  7.5 Effects of curvature and refraction, numerical problems on application of correction | 7.5 Effects of curvature and refraction, numerical problems on application of correction | 7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling  7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels.  7.8 Definitions, concepts and characteristics of contours.  7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets.  7.10 Use of contour maps on civil engineering projects – drawing crosssections from contour maps, locating proposal routes of roads / railway / canal on a contour map  ,computation of volume of earthwork from contour map for simple structure.  7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making  COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plan  8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule. |  |  |  |
| 12th | 05/08/21 | 2 | 7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling | 7.6 Reciprocal leveling – principles, methods, numerical problems, precise leveling | Nil |  |  |  |
| 08/07/21 | 1 | 7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels | 7.7 Errors in leveling and precautions, Permanent and temporary adjustments of different types of levels | Nil |  |  |  |
|  | 09/07/21 | 2 | 7.8 Definitions, concepts and characteristics of contours | 7.8 Definitions, concepts and characteristics of contours | Nil |  |  |  |
| 13th | 15/07/21 | 1 | 7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets | 7.9 Methods of contouring  plotting contour maps Interpretation of contour maps, toposheets | Nil |  |  |  |
| 16/07/21 | 2 | 7.10 Use of contour maps on civil engineering projects – drawing cross sections from contour maps, locating proposal routes of roads / railway / canal on a contour map, | 7.10 Use of contour maps on civil engineering projects – drawing cross sections from contour maps, locating proposal routes of roads / railway / canal on a contour map | Nil |  |  |  |
| 14th | 19/07/21 | 2 | computation of volume of earthwork from contour map for simple structure | computation of volume of earthwork from contour map for simple structure | Nil |  |  |  |
| 22/07/21 | 1 | 7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making | 7.11 Map Interpretation: Interpret Human and Economic Activities (i.e.: Settlement, Communication, Land use etc.), Interpret Physical landform (i.e.: Relief, Drainage Pattern etc.), Problem Solving and Decision Making | Nil |  |  |  |
| 23/07/21 | 2 | COMPUTATION OF AREA & VOLUME:  8.1 Determination of areas, computation of areas from plans | COMPUTATION OF AREA & VOLUME:8.1 Determination of areas, computation of areas from plans | Nil |  |  |  |
| 15th | 26/07/21 | 2 | 8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule | 8.2 Calculation of area by using ordinate rule, trapezoidal rule, Simpson’s rule | Nil |  |  |  |
| 29/07/21 | 1 |  |  |  |  |  |  |
| 30/07/21 | 2 |  |  |  |  |  |  |
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