BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)

STUDENT'S ATTENDANCE REGISTER

Time / Day	9:05 - 9:55	9:55 - 10:45	10:45 - 11:30		
MON	✓				
TUES			✓		
WED		✓			
THUR		✓			
FRI			✓		

Year/ Session	
Semester & Branch	4th & Civil
Subject with Code	Land Survey - 1 / Th. 3
Name of the Faculty Member	Kiran Devi

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			1. Introduction to Surveying, Linear measurements:-
February		13/02/23	1.1. Surveying:- Defination, Aims & objectives.
		14/02/23	1.2. Principles of Survey - Plane.
		15/02/23	Surveying - Geodetic Surveying - Instrumental Surveying.
		16/02/23	1.3. Precision and accuracy of measurement, instrument used for measurement of distance, Types of tapes and chain.
February		17/02/23	1.4. Errors and mistakes in linear measurement - classification, sources of errors and remedies.
		20/02/23	1.5. Correction to measured length
		21/02/23	due to incorrect length, temperature variations, pull, sag, numerical problems applying corrections.
			2. Chaining and chain Surveying.
February		22/02/23	2.1. Equipment and accessories for chaining.
		23/02/23	2.2. Ranging. purpose, signaling,

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Month	Week	Class Day	Theory/Practical Topic
			direct and indirect ranging, Line ranger. features and use errors due to incorrect ranging
February		24/02/23	2.3 Methods of chaining. Chaining on flat ground - Slope method, clinometer - features and use, slope correction.
		27/02/23	2.4. Setting perpendiculare with chain & tape., chaining across different types of obstacles - Numerical problems on chaining across Obstacles.
February		28/02/23	2.5. purpose of chain surveying its principle, concept of field book Selection of survey station, Base line lines, check lines.
March		01/03/23	2.6. Offsets - Necessity, perpendicular and oblique offsets, Instrument for setting offsets - Cross staffs, Optical Square.
		02/03/23	2.7. Errors in chain surveying. Compensating and accumulative errors causes & Remedies, Precautions to be taken during chain surveying.

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Month	Week	Class Day	Theory/Practical Topic
			3. Angular Measurement and compass Surveying :—
March		03/03/23	3.1. Measurement of angles with chain, tape & compass.
		04/03/23	3.2. Compass - Types, features, parts, merits & demerits, Testing & adjustment of compass.
		06/03/23	3.3. Designation of angles. Concept of meridians. Magnetic, true, arbitrary. Concept of bearing. Whole circle
March		07/03/23	bearing, Quadrantal bearing, Reduced bearing, Suitability of application, numerical problems on conversion of bearing.
		08/03/23	3.4. Use of compasses. Setting in field - centering, leveling, taking readings, Concepts of fore bearing.
March		09/03/23	Back bearing, numerical problems on computation of interior & exterior angles from bearing.
		10/03/23	3.5. Effects of earth's magnetism - dip of needle, magnetic declination, variation in declination, numerical
		11/03/23	problems on application of correction for declination.

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Month	Week	Class Day	Theory/Practical Topic
March		13/03/23	3.6 Errors in angle measurem... with compass - Sources & remed...
		14/03/23	3.7. principles of traversing - Open & close traverse, Methods traversing.
		15/03/23	3.8. Local attraction - Causes, detection, errors, Corrections Numerical problems of applicat of correction due to local attraction.
March		16/03/23	3.9. Errors in compass Survey Sources & remedies.
			Plotting of traverse - check for closing errors in closed & open traverse, Bowditch's correction Gales table.
			4. Map Reading Cadastral Map & Nomenclature :-
		17/03/23	4.1. Study of direction, scale, Grid reference and Grid Square
March		18/03/23	Study of signs and Symbols.
		20/03/23	4.2. Cadastral Map preparation Methodolog

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Month	Week	Class Day	Theory/Practical Topic
March		21/03/23	4.3 Unique identification numbare of parcel.
		22/03/23	4.4. Position of existing control points & its types.
		23/03/23	4.5. Adjacent Boundaries and features,
March		24/03/23	Topology creation and verification.
			5. Plane Table Surveying -
		25/03/23	5.1. Objectives, principles and use of plane table surveying.
		27/03/23	5.2. Instrument and accessories used in plane table surveying.
March		28/03/23	5.3. Methods of plane table surveying - (1) Radiation
		29/03/23	(2) Intersection
			(3) Traversing
		31/03/23	(4) Resection
April		03/04/23	5.4. Statement of Two points & Three point problems.
		04/04/23	Errrors in plane table surveying and their corrections, precautions in plane table surveying.

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Month	Week	Class Day	Theory/Practical Topic
			6. Theodolite Surveying and Traversing
April		06/04/23	6.1. Purpose and defination of theodolite surveying
		08/04/23	6.2. Transit theodolite - Descripti Of features, component parts,
		10/04/23	Fundamental axes of a theodolite, concept of vernier, reading a vernier, Temporary adjustm Of theodolite.
April		11/04/23	6.3. Concept of transiting - Measurement of horizontal and vertical angles.
		12/04/23	6.4. Measurement of magnetic bearing; deflection angle,
April		17/04/23	direct angles, setting out angles
		18/04/23	prolonging a straight line with thedolite, Errors in theodolite observation.

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B.I.E.T.,COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
April		19/04/23	6.5 Methods of theodolite traversing with - Inclined angle method, deflection angle method, bearing method,
		20/04/23	Plotting the traverse by coordinate method, checks for open and closed
		21/04/23	traverse.
		22/04/23	6.6 Traverse computation - Consecutive coordinates, latitude and departure,
April		24/04/23	Gale's traverse table, Numerical problems on omitted measurement of lengths and bearings
		25/04/23	6.7 Closing error - adjustment of angular errors, adjustment of bearing numerical problems.
		27/04/23	6.8 Balancing of traverse - Bowditch's method, transit method,
April		28/04/23	graphical method, axis method. Calculation of area of closed traverse.
			7. Levelling and contouring :-
		29/04/23	7.1. Defination and purpose and types of levelling - Concepts of
May		01/05/23	level structure, Horizontal surface, vertical surface, datum, R.L, B.M.
		02/05/23	7.2. Instruments used for levelling, concepts of line of collimation, axis of bubble tube, axis of telescope, vertical axis.

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Month	Week	Class Day	Theory/Practical Topic
May		03/05/23	7.3. Levelling. Staff – Temporary adjustments of level, taking reading with level, concept of benchmark, BS, IS, FS,
		04/05/23	7.4. Field data entry – Level book, height of collimation method and rise & fall method, comparision, Numerical problems on reduction of level, applying both methods, arithmetic checks.
May		06/05/23	7.5. Effect of curvature and refraction, numerical problems, application of correction.
		08/05/23	7.6. Reciprocal levelling – principle, methods, numerical problems, precise levelling.
May		09/05/23	7.7. Errors in leveling and precautions, permanent and temporary adjustments of different types of level.
		10/05/23	7.8. Defination, concepts and characteristics of contours.
		11/05/23	7.9. Methods of contouring, plotting contours maps, Interpretation of contours maps, topo sheets

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Month	Week	Class Day	Theory/Practical Topic
May		12/05/23	7.10. Use of contour maps on civil engineering projects - drawing cross-section from contour maps, locating proposal routes of roads/ railway/canal on a contour maps, computation of volume of earthwork from contour map for simple structures.
		13/05/23	
May		15/05/23	
		16/05/23	7.11 Map Interpretation :— Interepret Human and Economic Activities (i.e. settlement, communication, land use etc), Interepret physical landform (i.e Relief, drainage pattern etc), Problem Solving and Decision Making.
May		17/05/23	

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Month	Week	Class Day	Theory/Practical Topic
			8. Computation of area & Vol
May		18/05/23	8.1. Determination of area Computation of areas from plans.
		19/05/23	8.2 Calculation of area b
May		20/05/23	using ordinate rule, trapezoidal rule, Simpson's r
		22/05/23	8.3. Calculation of volumes
May		23/05/23	by prismoidal formula an trapezoidal formula, prismo Corrections, curvature corrections for volumes.

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