Q. Code:710290

Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2024

Third Semester

CE18303 – PLANE AND GEODETIC SURVEYING

(Civil Engineering)

(Regulation 2018/2018A)

TIME: 3 HOURS **MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	To describe the rudiments of various surveying and its principles.	
CO 2	To summarize the concepts of Theodolite Surveying and computation of area and volume calculation.	**3**
CO 3	To enumerate the procedure for establishing horizontal and vertical control and its adjustment procedure.	**3**
CO 4	To apply the modern surveying methods for recording observations, data acquisition, data processing and other field applications.	**3**
CO 5	To apply the knowledge in Route surveying, Hydrographic surveying and Field Astronomical surveying in the field measurements.	**3**

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	Distinguish between plane surveying and geodetic surveying.	**1**	**2**
2.	Discuss about check lines and tie stations.	**1**	**2**
3.	Differentiate between latitude and departure.	**2**	**2**
4.	Discover the reason for taking face left and face right observations.	**2**	**2**
5.	Summarize the specifications of first order triangulation.	**3**	**2**
6.	Discuss in detail about the weight of an observation.	**3**	**2**
7.	When do you substitute the total station instead of conventional surveying instruments?	**4**	**2**
8.	Distinguish between space and user segment in GPS.	**4**	**2**

9.	What is hydrographic survey?	**5**	**2**	
10.	Discuss the term azimuth.	**5**	**2**	

PART- B (5 x 14 = 70 Marks)

		Marks	CO	RBT LEVEL
11. (a)	Describe the following methods of plane table surveying. (i) Radiation (ii) Intersection (iii) Traversing (iv) Resection	**(14)**	**1**	**2**
	(OR)			
(b)	Describe the effects of curvature and refraction in leveling and their corrections.	**(14)**	**1**	**2**
12. (a)	Explain the different between tangential and stadia tacheometry. How will you determine the stadia constants?	**(14)**	**2**	**2**
	(OR)			
(b)	Explain with neat sketch the essential parts of transit theodolite.	**(14)**	**2**	**2**
13. (a)	Describe the various methods of arranging the triangles and mention the different criteria for the selection of the arrangement of triangles.	**(14)**	**3**	**3**
	(OR)			
(b)	Examine the following given angles closing the horizon at a station and adjust it. A = 122º 05’58.9” Weight 1 B = 86º 45’ 16.4” weight 1 C = 72º 50’31.2” weight 3 D = 78º 18’ 16.6” weight 1	**(14)**	**3**	**3**
14. (a)	Explain in detail about the fundamental measurement systems of total station.	**(14)**	**4**	**2**
	(OR)			
(b)	Describe in detail about Anti-spoofing and Selective Availability.	**(14)**	**4**	**2**
15. (a)	List out the methods of curve setting and explain any one of the linear methods of curve setting with neat sketch.	**(14)**	**5**	**2**
	(OR)			
(b)	Describe the various investigations involved in hydrographic surveying.	**(14)**	**5**	**2**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	The offsets taken at 5 m intervals from a chain line to a curved boundary are: 0, 4.6, 6.5, 6.8, 5.2, 3.5, 2.2 metres. Calculate the area between the chain line, the curved boundary line and the end offsets using Simpson's rule.	**(10)**	**2**	**3**

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