

CBGS SCHEME

BCV302

USN

Third Semester B.E./B.Tech. Degree Examination, Dec.2023/Jan.2024 Engineering Survey

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks, L: Bloom's level, C: Course outcomes.

Module - 1			M	L	C
Q.1	a.	Explain in brief about: i) Topographical survey ii) Cadastral survey iii) Hydrographic survey iv) Control survey v) Under ground survey.	10	L2	CO1
	b.	Discuss in detail about the advantages and disadvantages of plane table survey.	5	L2	CO1
	c.	Explain classification of survey by objective of survey.	5	L2	CO1
OR					
Q.2	a.	Discuss in detail about the EDM.	10	L2	CO1
	b.	List and discuss the sources of errors in compass survey.	5	L2	CO1
	c.	Explain the classification of survey by nature of survey.	5	L2	CO1
Module - 2					
Q.3	a.	Explain in detail the procedure for the measurement of horizontal angle by theodolite by repetition method.	10	L2	CO2
	b.	What are the accessories and advantages of total station survey?	5	L2	CO2
	c.	The following staff readings were observed successively with a level the instrument is moved by 3 rd , 6 th and 8 th readings 2.228, 1.606, 0.988, 2.090, 2.864, 1.262, 0.602, 1.982, 1.044, 2.684m record the readings in a level book and calculate RL, if the first reading was taken at a B.M of 432.384m use HI method.	5	L3	CO2
OR					
Q.4	a.	Explain in detail the procedure for differential leveling by plane of collimation method using dumpy level.	10	L2	CO2
	b.	Explain in detail how horizontal angle is measured with the total station.	5	L2	CO2
	c.	The following observations were taken with dumpy level and 4m leveling staff. The instrument was shifted after 4 th and 7 th reading. The first reading was taken on a bench mark whose RL was 15.575m. Prepare a page of level book and calculate RL of all the points. The observations were taken at every 30m interval. Also find out the gradient between first and last point use rise and fall method. Observations are 0.565, 1.250, 1.675, 3.695, 0.125, 2.345, 0.500, 1.785 and 2.535.	5	L3	CO2

Module – 3

Q.5	a.	Discuss in detail about characteristics of contours.	10	L2	CO3
	b.	Explain the procedure of conducting the L/S and C/S by using level.	10	L2	CO3

OR

Q.6	a.	Discuss in detail about contouring using level.	10	L2	CO3
	b.	Explain how coordinates are measured using total station.	10	L2	CO3

Module – 4

Q.7	a.	For applying Rankine's method, provide the procedure of setting out of horizontal curve.	10	L3	CO4
	b.	Explain the procedure of setting out two room building by center line method.	10	L2	CO4

OR

Q.8	a.	Explain how areas are measured by trapezoidal and Simpson's rule.	10	L2	CO4
	b.	A railway embankment is 10m wide with side slope $1\frac{1}{2}$ to 1. Assuming the ground to be level in a direction transverse to the center line, calculate the volume contained in a length of 120m, the center heights at 20m intervals being in meters are 2.200, 3.700, 3.800, 4.000, 3.800, 2.800, 2.500. Calculate volume by trapezoidal rule and prismoidal rule.	10	L3	CO4

Module – 5

Q.9	a.	What is absolute and differential positioning with GPS? Explain about Gagan system in India.	10	L2	CO5
	b.	What are the applications and advantages of surveying with drone?	10	L3	CO5

OR

Q.10	a.	What are the applications and uses of remote sensing and GIS in engineering surveying.	10	L3	CO5
	b.	Outline the process of drone surveying.	10	L2	CO5
