

B.E. / B.Tech. Civil Engineering (Model Curriculum) Semester-III
003 / PCC-CE303 - Surveying & Geomatics

P. Pages : 2



Time : Three Hours

GUG/S/25/13711

Max. Marks : 80

- Notes : 1. All questions carry equal marks.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.

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| 1. | a) State the distinguish between prismatic and surveyor compass. 4 |
| b) | What are the principle of surveying? 4 |
| c) | A 20 cm chain was tested before the commencement of work and found to be correct. After chaining 840 m, the chain was found to be 0.08 m too long. At the end of work, after chaining distance of 1376 m the chain was found to be 0.12 m too long, what is the true distance chained. 8 |

OR

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| 2. | a) The following consecutive reading were taken with a level.
2.375, 1.730, 0.615, 3.450, 2.835, 2.070, 1.835, 0.985, 0.435, 1.630, 2.255 and 3.630 m. The instrument was shifted after fourth and eighth readings. The last reading was taken on aBM of RL 110.200 m. Find RL of all points. 8 |
| b) | What are the instruments for setting out right angles. 4 |
| c) | What is mean by local attraction. How it is detected. 4 |
| 3. | a) What are the fundamental lines of transit theodolites. Explain relation between them. 6 |
| b) | The following records are obtained in a traverse survey were the length & bearing of the last line were not recorded: 10 |

Line	Length (m)	Bearing
AB	75.50	30°24'
BC	180.50	110°36'
CD	60.25	210°30'
DE	?	?

Compute length and bearing of line DA.

OR

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| 4. | a) A tacheometer is set up at an intermediate point on a traverse course PQ and following observations are made on a vertically held staff. 10 |
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	Staff Station Vertical Angle	Staff Intercept	Axial Hair Reading
P	+6° 20'	2.46	1.675
Q	+4° 30'	1.86	1.880

The instrument is fitted with an analectic lens and the constant is 100. Find the gradient of the line joining station P and Q.

- b) Explain contouring and use of contour maps. 6
- 5.** a) Write short note on: 10
- i) Towers and Signals
 - ii) Satellite Station
- b) Explain phase signal & their corrections. 6

OR

- 6.** a) Give the classification of triangulation system. 8
- b) Write various correction applied to base line measurement. 8
- 7.** a) Explain vertical, tilted and oblique photograph. 8
- b) A scale of an aerial photography is $1\text{km} = 100 \text{ m}$. The photograph size is $20 \times 20 \text{ cm}$. Determine the no. of photographs required to cover an area of $10 \text{ km} \times 10 \text{ km}$ if longitudinal overlap is 60% and side overlap is 30%. 8

OR

- 8.** a) State uses of Photogrammetry. 6
- b) What are Component of GIS. 5
- c) State application of GIS in Civil Engineering. 5
- 9.** a) Explain the concept of GPS. 8
- b) What is electromagnetic spectrum. 8

OR

- 10.** Write short note on: 16
- 1) Remote Sensing
 - 2) Total Station
 - 3) EDM
 - 4) GPS
