

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 18

B.Tech.(CE) (2018 Batch) (Sem.–3)

SURVEYING & GEOMATICS

Subject Code : BTCE-301-18

M.Code : 76370

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

- 1) List the various types of satellites used in remote sensing.
- 2) Write a short note on Bowditch's rule?
- 3) What is the use of trough compass in plane table surveying?
- 4) Differentiate between a map and a plan.
- 5) Define versed sine.
- 6) Explain atmospheric windows.
- 7) "*The elevation of roof from floor level can be calculated using staff*". Justify.
- 8) Convert following WCB into reduced bearing :
327 degree, 162 degree
- 9) Illustrate various uses of total station.
- 10) If there is magnetic declination of 2degree in west. What is true bearing of line having magnetic bearing of 127 degrees?

SECTION-B

- 11) Explain the temporary adjustments of Theodolite. Illustrate with neat diagrams.
- 12) A tachometer was setup at station A and readings on vertically held staff at B were 2.250, 2.800 and 2.950. The line of sight is inclined at $80^{\circ}20'$. Another observation taken on B.M. is 1.645, 1.915 and 2.00, the inclination of the line of sight being $10^{\circ}6'$. Calculate the horizontal distance between A and B, and elevation of B if the RL of B.M. is 420m. The constant of the instrument are 100 and 0.3.
- 13) While doing survey of new enclave in city, Chief surveyor instructed his subordinate to do survey of the area from whole to part. What is the purpose behind this instruction? Explain all the principles of surveying.
- 14) Explain the principle underlying "Electronic Distance Measurement". Write a note on errors in EDM.
- 15) Illustrate various segments comprising the functioning of GPS with neat diagrams. Discuss briefly the role of each component.

SECTION-C

- 16) An area 40km long in the north south direction and 34km in the east west direction is to be photographed with a lens having 30cm focal length for the purpose of constructing a mosaic. The photograph size is $20\text{cm} \times 20\text{cm}$. The average scale is to be 1:11000 effective at an elevation of 400m above the datum. Overlap is to be at least 65% and the side lap is to be at least 25%. An intervalometer will be used to control the interval between exposures. The ground speed of aircraft will be maintained at 200 km/hr. Determine the data for the flight plan.
- 17) Write a brief note on contouring? Describe its characteristics with neat sketch and its uses.
- 18) Discuss three point problems. Explain briefly various methods to solve it with neat diagrams.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.