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

Question Paper Code: 33016

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Third Semester

Civil Engineering

01UCE306 – SURVEYING - I

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. State the principle of surveying.
2. What is well conditioned triangle?
3. Define local attraction.
4. Discuss the three point method of resection.
5. List out the error in the leveling.
6. Define Bench mark.
7. What is Gale's table?
8. Define contour gradient.
9. What are the sources of errors in theodolite?
10. What are the purposes of Tacheometric surveying?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the obstacles in chaining with neat sketches. (16)

Or

(b) What are the accessories used for a chain survey? Explain its each function. (16)

12. (a) Define three point problem and how it is solved by tracing paper method. (16)

Or

(b) List the various types of errors in plane table surveying and also list out the precautionary measures to overcome them. (16)

13. (a) Following consecutive staffs reading were taken with a level along a sloping ground line *AB* at a regular distance of 20*m* by using 4*m* leveling staff 0.352, 0.787, 1.832, 2.956, 3.758, 0.953, 1.766, 2.738, 3.872, 0.812, 2.325 and 3.137 on *B*. Rule out a page of level field book, enter the above reading *RL* of point *A* is 320.288 Calculate *RL* of all points by rise fall system, and work out the gradient of line *AB*. (16)

Or

(b) Explain, in details, the different types of leveling. (16)

14. (a) Explain with neat sketches the characteristics of contours and uses of contours. (16)

Or

(b) The following perpendicular offsets were taken at 10*m* intervals from a survey line to an irregular boundary line. 3.25, 5.60, 4.20, 6.65, 8.75, 6.20, 3.25, 4.20, 5.65. Calculate the area using average ordinate rule, trapezoidal rule and Simpson's rule. (16)

15. (a) Determine the gradient from a point A to a point B from the following observations made with a tachometer fitted with an anallactic lens. The constant of the instrument was 100 and the staff was held vertically.

Inst. station	Staff point	Bearing	Vertical angle	Staff readings
P	A	134^{o}	$+ 10^{o} 32'$	1.360, 1.915, 2.470
	B	224^{o}	$+ 5^{o} 6'$	1.065,1.885, 2.705

(16)

Or

(b) Explain in detail about temporary adjustment of Theodolite. (16)