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

Question Paper Code : 27108

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fourth Semester

Civil Engineering

CE 6404 — SURVEYING — II

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define quadrilaterals in triangulation.
2. Define geodetical observations.
3. List out the errors of measurements.
4. State station adjustments.
5. Write the parts of the Total Station.
6. What are the cares required for total station at the time of operation?
7. What do you understand from the term "satellite configuration"?
8. Write about anti spoofing.
9. List out the aims of route survey.
10. What are the methods of locating soundings?

PART B — (5 × 16 = 80 marks)

11. (a) Briefly explain the horizontal control and vertical control for setting out. (16)

Or

(b) The following reciprocal observations were made from two points P and Q:

Horizontal distance between P and Q = 45128 m

Angle of depression of Q at P = 6' 20"

Angle of depression P at Q = 8' 10"

Height of signal at P = 6.97 m

Height of signal at Q = 5.63 m

Height of instrument at P = 1.27 m

Height of instrument at Q = 1.34 m

Calculate (i) the R.L. of Q, if that of P is 1248.65 m and (ii) the average co-efficient of refraction at the time of observations. Take R sin 1" = 30.88 m. (16)

12. (a) Describe the laws of accidental errors. (16)

Or

(b) The following are the measured angles of a quadrilateral ABCD with the central point E:

Triangle	Central Angle	L.H. Angle	R.H. Angle
AEB	59° 03' 10"	61° 00' 54"	59° 56' 06"
BEC	118° 23'50"	32° 03' 54"	29° 32' 06"
CED	60° 32' 05"	56° 28' 01"	62° 59' 49"
DEA	122° 00' 55"	28° 42' 00"	29° 17' 00"

Adjust the quadrilaterals. (16)

13. (a) Explain the fundamental measurement system of total station. (16)

Or

(b) Briefly describe the working and measuring principle of microwave system total system. (16)

14. (a) What are the types of GPS receivers? Explain in detail. (16)

Or

(b) How the traversing and triangulation is to be done using GPS? (16)

15. (a) Two straight T_1V and T_2V having bearings of 50° and 110° respectively, are to be connected by a 5° curve (based on chord of 40 m). Due to inaccessible intersection point, the following traverse is run from a point P on the rear tangent to a point S on the forward tangent.

Line	Length (m)	Bearing
PQ	120	70°
QR	100	140°
RS	190	40°

The chainage of P is 1618.8 m. Determine the chainage P.I., P.C. and P.T. (16)

Or

(b) Briefly explain the applications of remote sensing. (16)
