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Question Paper Code : 90288

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Fifth Semester

Civil Engineering

GI 8013 – ADVANCED SURVEYING

(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. Determine the local mean time at a longitude 60°E if the local hour angle of the mean sun is 5 h 30 m 20 s.
2. Define Zenith.
3. Distinguish between 'terrestrial photogrammetry' and 'aerial photogrammetry'.
4. What is meant by scale of photograph ?
5. What is the principle of Total station ?
6. Write down the application of total station.
7. Write the principle of GPS.
8. How DGPS is different from Handheld GPS ?
9. What is the importance of transition curve ?
10. Define hydrographic survey.

PART – B **(5×13=65 Marks)**

11. a) Enumerate and explain the relationships between the coordinates of celestial sphere.

(OR)

b) Determine the azimuth and altitude of a star from the following data
Declination of star = 10°40'S
Hour angle of star = 325°
Latitude of the observer = 48°N

12. a) Explain the principles and branches of terrestrial photogrammetry.

(OR)

b) Determine an expression for determining the relief displacement on a vertical photograph.

13. a) List the components of Total Station. Describe them and also write about its care and maintenance.

(OR)

b) What is meant by Total Station survey ? Explain Errors in Total Station Survey.

14. a) Explain the components of GPS and their functions.

(OR)

b) Write down the steps involved in GPS data processing.

15. a) If the radius of a circular curve is 400 m and angle of intersection is 120°. Find the various elements of a simple curve, taking the chainage of the point of intersection as 1220.50 m.

(OR)

b) Define sounding. Explain any three methods of sounding.

PART – C **(1×15=15 Marks)**

16. a) Explain in detail about route surveying for highways.

(OR)

b) Describe the method of setting out of curve by angular methods.
