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Total No. of Questions : 8] [Total No. of Printed Pages : 4

EGS-303

B.E. 5th Semester (CGPA) Civil Engg.
(Zero Sem.) Examination–2018
SURVEYING–II
Paper–CE–504

Time : 3 Hours] [Maximum Marks : 60

Note : *Attempt any five questions. All questions carry equal marks.*

1. (a) What are the objectives of GIS ? Discuss the key components of GIS.

   (b) Explain schematically the interaction of electromagnetic radiations with earth and water surfaces.

2. (a) Enumerate different types of EDM instruments and describe briefly the salient features of Total station.

(b) What are the properties of electromagnetic waves ? Draw complete electromagnetic spectrum showing all wavelengths.

3. (a) What is function of aerial camera ? Describe schematically its essential parts.

(b) What is meant by scale of vertical photograph ? Determine scale of photograph for terrain lying at elevation of 50 m and 200 m if vertical photograph was taken at altitude of 1200 meters. Take focal length of camera as 15 cm.

4. (a) Describe how a total station has brought revolution in surveying. Describe briefly the salient features of total station.

(b) Describe Global Positioning System (GPS) in detail.

5. (a) Explain the following astronomical terms :

(i) The celestial sphere

(ii) The hour angle

(iii) The horizon and

(iv) Declination

Also write uses of field astronomy.

(b) Find the hour angle and declination of a star from the following data :

Latitude of place = 48°30' N

Azimuth of star = 50° W

Altitude of star = 28°24'.

6. (a) Explain the basic principle of remote sensing. Discuss image interpretation techniques.

(b) Explain various methods of interaction of EM radiation with matter. What is the effect of EM radiation of the earth's surface ?

7. (a) Define : (i) Azimuth (ii) Nadir (iii) Zenith (iv) Latitude (v) Longitude (vi) Residual error (vii) Most probable value.

(b) Following readings of levels were carried out 2.335, 2.345, 2.350, 2.300, 2.315, 2.305, 2.325 and 2.315.

Calculate (i) Probable error for single observation (ii) Probable error for mean.

8. (a) What is base line ? How is it selected ? Describe the procedure of its extension.

(b) What is tacheometer ? Explain the procedure of finding its coefficients in the field.