B.Tech. 4th Semester (Civil F-Scheme) Examination,
May–2018
SURVEYING–II
Paper–CE–208 F

Time allowed : 3 hours] *[Maximum marks : 100*

Note : *Attempt any **five** questions. **Question No. 1 is compulsory.** Select at least **one** question from each unit. All questions carry equal marks.*

1. Explain the following : 4×5=20
   (a) Trignometrically Leveling
   (b) Coefficient of refraction
   (c) Astronomical Terms
   (d) Axis Signal Correction.

Unit–I

2. (a) Describe Napier's rule of circular part. 10
   (b) What precautions are observed while selecting the site for measurement of base line ? 10

3. (a) The following are the mean value observations in the measurement of three angles α β γ at one station :
   $\alpha = 76°\text{-}42'\text{-}46.2''$ with wt 4

$\alpha + \beta = 134°\text{-}36'\text{-}32.6''$ with wt 3

$\beta + \gamma = 185°\text{-}35'\text{-}24.8''$ with wt 2

$\alpha + \beta + \gamma = 262°\text{-}18'\text{-}10.4''$ with wt 1

Calculate the most-probable of each angle. 15

(b) Describe solar and mean solar time. 5

Unit–II

4. Explain least square and its methods in detail with suitable examples. 20

5. (a) Describe spherical triangles and its properties. What is nautical miles. 10

(b) The standard time meridian in India is 82°-30′ E. If the standard time at any moment is 20 Hours 24 minuts 6 seconds. Find the local mean time for two places having longitudes (a) 20°E (b) 20°W. 10

Unit–III

6. The scale to a photograph is 1 cm = 100 m and the size of the photograph is 23 cm × 23 cm. Determine the numbers of photographs required to cover an area of 150 sq. km. if the longitudinal overlap is 60% and the size overlap is 30%. 20

7. Describe the advantages of aeriel photography over mapping. What are its limitations ? 20

Unit–IV

8. (a) Describe stereoscope with proper significance. 10

   (b) Describe stereoscopic vision. 10

9. (a) What are the three segments of GPS ? Describe them briefly. 10

   (b) Describe the following terms :

   Flying height, Principal points and Nodal points and photo interpretation. 10