

24198

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) Trigonometrically 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  $\alpha$   $\beta$   $\gamma$  at one station :
- $\alpha = 76^\circ-42'-46.2''$  with wt 4

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[P.T.O.]

- $\alpha + \beta = 134^\circ - 36' - 32.6''$  with wt 3  
 $\beta + \gamma = 185^\circ - 35' - 24.8''$  with wt 2  
 $\alpha + \beta + \gamma = 262^\circ - 18' - 10.4''$  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. 10  
 What is nautical miles.

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

### Unit-III

6. The scale to a photograph is 1 cm = 100 m and the size of the photograph is 23 cm  $\times$  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 aerial 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