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K – 4428

Reg. No. :

Name :

Fourth Semester B.Tech. Degree Examination, September 2020

08.405 – SURVEYING – II (C)

(2008 Scheme)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

- I. (a) What is strength of figure in triangulation?
- (b) Write any three uses of triangulation survey.
- (c) State the principle of least squares.
- (d) Explain any three needs of providing curves
- (e) What is meant by super elevation or cant?
- (f) Define the following terms
 - (i) Celestial sphere
 - (ii) Declination circle
- (g) Explain, how do you compute horizontal and vertical angles from terrestrial photograph?
- (h) List out parts of total station.

(8 × 5 = 40 Marks)

P.T.O.



PART – B

Answer **one** full question from each module.

MODULE I

II. (a) Explain the types of signal used in triangulation survey. **10**

(b) From a satellite station S, 6.5 m from the main triangulation station A, the following directions were observed

(A) $0^{\circ} 0' 0''$, (B) $124^{\circ} 20' 30''$, (C) $210^{\circ} 16' 12''$ and (D) $315^{\circ} 20' 18''$

The lengths of AB, AC, AD are respectively 3250.5 m, 4050.22 m and 3650 m. Determine the directions of AB, AC and AD. **10**

OR

(c) Explain the following terms

(i) Weight of an observation

(ii) Most probable value

(iii) Residual error

(iv) True value of a quantity. **8**

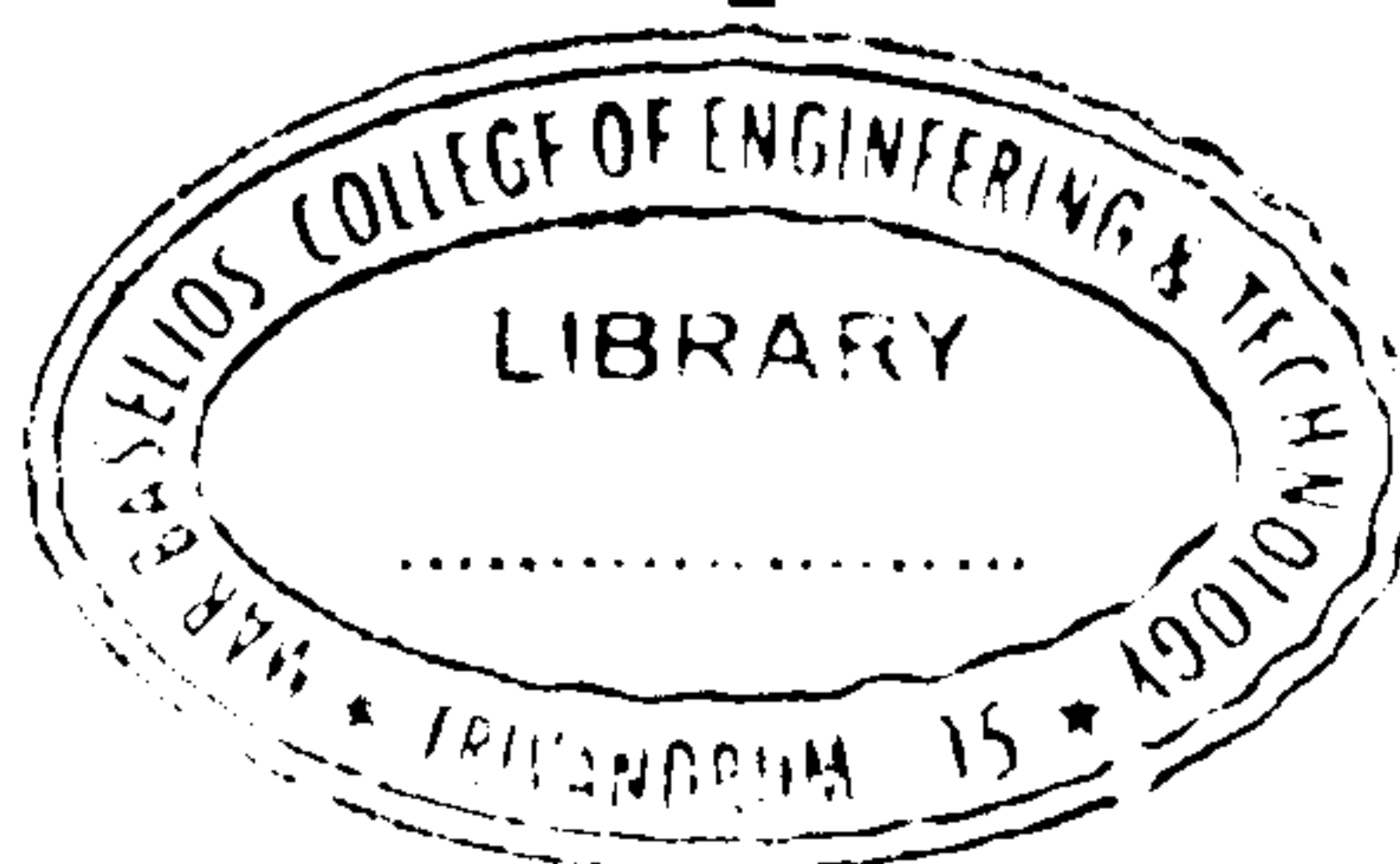
(d) The angles A and B were recorded as follows

$A = 30^{\circ} 12' 28'' . 2$

$B = 35^{\circ} 48' 12'' . 6$

$A + B = 66^{\circ} 0' 44'' . 4$

Determine the most probable values of A and B. **12**

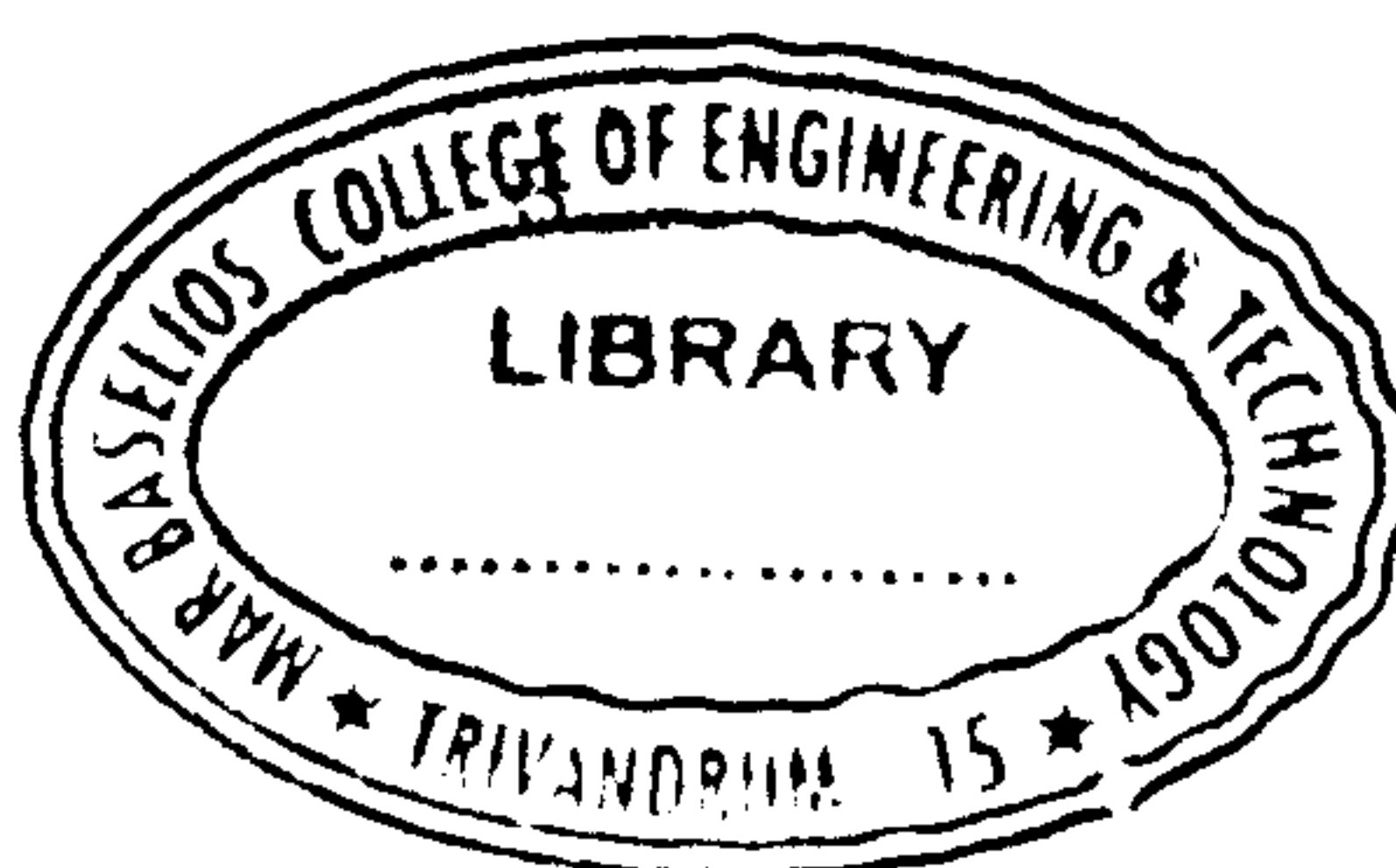


MODULE II

- III. (a) What is meant by reverse curve and where is it generally used? 8
- (b) What is meant by shift of a curve? Prove that transition curve bisects the shift. 12
- OR
- (c) Differentiate between the following
- (i) Zenith and Nadir
- (ii) Celestial horizon and Celestial equator
- (iii) Latitude and Altitude. 12
- (d) Determine the altitude and azimuth of a star from the following data
Declination of the star is $22^{\circ}30'$ N, Hour angle is $42^{\circ}06'$ and latitude of the place of observation is 40° N. 8

MODULE III

- IV (a) Derive an expression for scale of an aerial photograph. 8
- (b) Explain the following terms
- (i) Crab and drift
- (ii) Stereoscopic vision
- (iii) Parallax bar. 12
- OR
- (c) What do you mean by modulation? Explain the types of modulation used in EDM. 10
- (d) Explain the field procedure of topographic survey with a total station. 10



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