

--	--	--	--	--	--	--	--	--	--

Fourth Semester B.E. Degree Examination, Feb./Mar. 2022 Advanced Surveying

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the components of a simple curve with neat sketch. (08 Marks)
- b. A curve is intended to set by ordinates from the long chord. Find the value of ordinates at 10mt distance from a circular curve having a long-chord of 80mt and a versed sine of 4mt. (08 Marks)

OR

- 2 a. Explain about the elements of compound curve with neat sketch. (08 Marks)
- b. Two straights AB and BC are intersected by a line D₁ D₂. The angles B D₁ D₂ and B D₂ D₁ are 40°30' and 36°24' respectively. The radius of the first arc is 600mts and that of second arc is 800mts. If the chainage of the intersection point 'B' is 8248.1mt. Find the chainages of the tangent points and point of compound curvature. (08 Marks)

Module-2

- 3 a. Explain about classification of triangular system in detail. (08 Marks)
- b. Explain about triangulation figures with the help of neat sketches. (08 Marks)

OR

- 4 a. Define an error. List about different types of errors generally occurred. (08 Marks)
- b. The following are the three angles α , β and r observed at station 'P' closing the horizon along with their probable errors of measurement. Determine their corrected values
 $\alpha = 78^\circ 12' 12'' \pm 2''$; $\beta = 136^\circ 48' 30'' \pm 4''$; $r = 144^\circ 59' 08'' \pm 5''$. (08 Marks)

Module-3

- 5 a. What is celestial sphere? Explain different coordinate systems in field Astronomy. (08 Marks)
- b. Explain about spherical triangle. What are its properties? (08 Marks)

OR

- 6 a. Explain the solution for right-angled spherical triangle by Napier rule. (08 Marks)
- b. Derive an expression for astronomical triangle with neat sketch. (08 Marks)

Module-4

- 7 a. Explain photogrammetric surveying. What are its uses? (08 Marks)
- b. Explain the scale of vertical photograph. (08 Marks)

OR

- 8 a. Write short notes on: i) Mosaics ii) Overlaps. (08 Marks)
- b. Define Stereoscopic parallax. What is its importance? (08 Marks)

Module-5

- 9 a. Describe briefly about total station and its uses in advanced surveying. (08 Marks)
- b. Discuss the applications of Remote sensing in transportation. (08 Marks)

OR

- 10 a. What are the key components of Geographical Information System (GIS)? What are its objectives? (08 Marks)
- b. Explain the importance of i) GPS ii) EDM. (08 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.