

Fourth Semester B.Tech Degree Examination

Model Question Paper

13.405 Surveying II (C)

Time: 3 Hrs

Marks: 100

Answer **all** questions from part A and **one full question from each module** in Part B

Part A

- I a) How are triangulation systems classified based on accuracy?
b) What are the elements of a simple curve?
c) Explain the working principle of a GPS?
d) Draw the electromagnetic spectrum and label.
e) What are the components of a GIS? (5x4=20)

Part B

Module I

- II (a) What is a triangulation station? What are the factors to be considered for the selection of triangulation stations? (8)
(b) During the reconnaissance of a hilly part of a country for geodetic surveying, the following information was obtained regarding the profile of intervening ground between stations P and Q, the distance PQ being 120 Km. The elevation above mean sea level are: P=210 m, Q=1050 m, L= 330 m and M=557 m. Peaks L and M are situated in the line PQ such that PL=50 Km and PM= 80 Km. Determine whether P and Q are intervisible, and if necessary, find the minimum height of scaffolding at Q, assuming P as the ground station. The line of sight is to clear the peaks by at least 3 m. (12)

OR

- III (a) State the laws of weights with examples. (8)
(b) Determine the most probable values of A, B and C of a triangle ABC from the following measurements.
A=63° 54' 40" weight 1
B=75° 34' 29" weight 2
C= 40° 30' 56" weight 1 (12)

Module II

- IV (a) What is closing error? How will you determine the closing error of a traverse? (8)
- (b) Explain the various methods for balancing the traverse. (12)

OR

- V (a) What is a transition curve? What are its functions? (8)
- (b) Explain in detail the Rankine's method of setting out a simple curve (12)

Module III

- VI (a) What is the principle of EDM? List the different types of EDM? (8)
- (b) Explain the procedure for surveying using total station. (12)

OR

- VII (a) What are the advantages of total station? (8)
- (b) What are the components of GPS and their functions? Explain. (12)

Module IV

- VIII (a) Derive the formula to determine the focal length of a camera lens (6)
- (b) What are the components of an ideal remote sensing system? (8)
- (c) How is GIS suitable for data base management? (6)

OR

- IX (a) What is relief displacement and how is it determined? (6)
- (b) Discuss on the various types of remote sensing systems and its applications. (8)
- (c) What are the components of GIS and what are its functions? (6)