Reg No.:_______________ Name:_______________

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

V SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019

Course Code: CE307

Course Name: GEOMATICS

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1 a) Explain successive bisection of chord method to set out simple circular curve. (7)

b) Explain error of closure with the help of a sketch. In a traversing, latitude and departure of the sides were calculated and it was observed that Σlatitude = 1.39 m and ΣDeparture = -2.17 m. Calculate the length of the closing error and its orientation. (8)

2 a) Two tangents intersect at chainage 60 chain + 60 links, the deflection angle being 52°30'. Calculate the necessary data for setting out a curve of 20 chains radius to connect the two tangents if it is intended to set out the curve by ordinate from long chords. Take peg interval equals to 20 m and length of chain as 20 metres. (10)

b) Explain elements of a compound curve with a neat sketch. (5)

3 a) While making a traverse survey, a surveyor started from point A, walked 1000m in S 67 ° W and reached point B. Then he changed his direction and walked 512 m in N10 ° E and reached point C. Then again he changed his direction and walked 1504 m in S 65 ° E and reached point D. Now the surveyor wants to return to A. Which direction should he move in and how many meters? (10)

b) Explain consecutive co-ordinates and independent co-ordinates. (5)

PART B

Answer any two full questions, each carries 15 marks.

4 a) Explain signal structure adopted in GPS surveying. Differentiate between code phase and carrier phase measurements. (8)

b) List down GPS errors and explain any three in detail. (7)

5 a) Explain the different phases of GPS survey. (12)

b) List the parameters affecting the accuracy of GPS positioning. (3)

6 a) Explain the difference between rapid static method and kinematic method of GPS surveying. (10)

b) What is DGPS. How is it significant? (5)

PART C

Answer any two full questions, each carries 20 marks.

7 a) What are the types of scattering in Remote sensing? Differentiate between them. (8)

b) Write a short note on spatial data and attribute data. (6)

c) What is buffering in GIS data analysis? (6)

8 a) Explain electromagnetic spectrum and atmospheric window with the help of sketches. (10)

b) Brief on the four different image resolutions of Remote sensing (10)

9 a) Explain vector data model. Its advantages and disadvantages. (10)

b) What is RMS error? How is it significant in data analysis (5)

c) With proper sketch, differentiate cylindrical, planar and conical map projection (5)

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