Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech Degree Examination (Regular and Supplementary), December 2020

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 any two methods of traversing by fast needle method. (7)

b) The following are the corrected consecutive coordinates of a closed traverse ABCDEA. Calculate the independent coordinates. Assume that the independent coordinates of A are (500N, 200E) (8)

Line	Latitude		Departure	
	N	S	E	W
AB		365.30	626.30	
BC	489.60		940.40	
CD	990.60			762.70
DE		538.30		777.00
EA		576.60		27.00

2 a) Give the steps involved in the setting out of a simple curve by successive bisection of arcs. (5)

b) Two tangents intersect at chainage of 1200m, the deflection angle being 42º. Compute all the data necessary to set out a curve of radius 300m by Rankine's method. The peg interval is 30m. (10)

3 a) Elaborate the steps in the computation of Gales traverse table. (8)

b) The chainage of intersection of two straight lines having deflection angle 55º is 1000m. If the radius of the curve is 400 m, calculate the five elements of the simple curve and the chainages of point of curve and point of tangency. (7)

PART B

Answer any two full questions, each carries 15 marks.

4 a) Illustrate the principle of working of GPS. (8)

	b)	Explain the satellite signal structure with suitable sketch.	(7)
5	a)	Explain the steps to conduct rapid static survey.	(8)
	b)	What is a visibility diagram? Give a sample visibility diagram.	(7)
6	a)	Enumerate four major GPS errors and biases and the methods to eliminate them.	(8)
	b)	What are the steps involved in the field operations of GPS survey.	(7)

PART C

Answer any two full questions, each carries 20 marks

7	a)	Illustrate the various stages of an idealised remote sensing system.	(10)
	b)	Distinguish between spectral and spatial resolution.	(5)
	c)	What are the applications of remote sensing?	(5)
8	a)	What is GIS and what are the components of GIS?	(7)
	b)	Give an overview of the GIS operations.	(9)
	c)	What is buffering and what are its applications?	(4)
9	a)	Distinguish between along track and across track scanning.	(6)
	b)	What is geometric transformation and how is its quality determined?	(6)
	c)	Compare the vector and raster data representations with suitable sketches.	(8)

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