APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
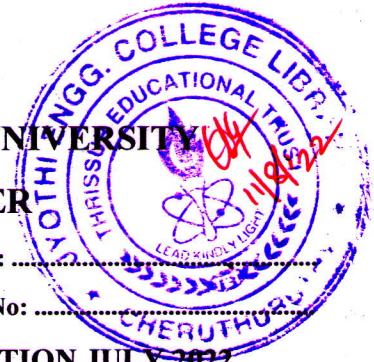
08 PALAKKAD CLUSTER

Q. P. Code: TE0822214-I   (Pages: 2)

SECOND SEMESTER M.TECH. DEGREE EXAMINATION JULY 2022

Branch: Civil Engineering   **Specialization: Transportation Engineering**

08CE6214 GIS AND ITS APPLICATIONS IN TRANSPORTATION ENGINEERING

Time: 3 hours   **Max. Marks: 60**

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q. No.	Module 1	Marks
1.a	Define GIS and its functions	3
	Answer b or c	
b	Explain Conical projection with neat sketches	6
c	What are the difference between Geographic and Projected Coordinate systems	6

Q. No.	Module 2	Marks
2.a	Expand and describe the term TIN's	3
	Answer b or c	
b	List out various Topological rules	6
c	Explain the Raster data structure	6

Q. No.	Module 3	Marks
3.a	Differentiate Accuracy and Precision	3
	Answer b or c	
b	Explain Affine Transformations	6
c	How discrepancy in spatial data occurs	6

1

Module 4

Q. No.		Marks
4.a	Define the term Data exploration	3

Answer b or c

b	Describe the term Map manipulations	6
c	Explain Vector data analysis	6

Module 5

Q. No.		Marks
5.a	What are the applications of GIS in Transportation Planning	4

Answer b or c

b	How to determine location of bus stops, transport terminals and road side facilities using GIS	8
c	Explain Decision support system and Road accessibility studies using GIS	8

Module 6

Q. No.		Marks
6.a	How Highway alignment can be fixed using GIS	4

Answer b or c

b	Explain how Traffic congestion analysis and Accident investigation studies are conducted using GIS	8
c	Explain different applications of GIS in Utility management	8