APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
08 PALAKKAD CLUSTER

Q. P. Code : TE0819202-1   (Pages: 2)   Name: ....
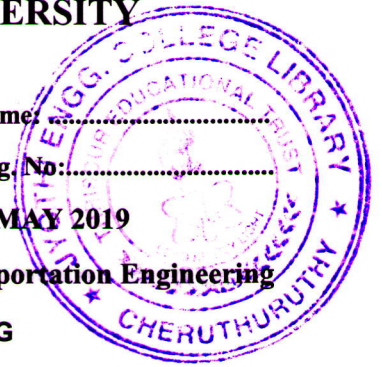
Reg. No: ....

SECOND SEMESTER M.TECH. DEGREE EXAMINATION MAY 2019

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

08CE6202 REGIONAL TRANSPORTATION PLANNING

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   Explain birth, migration and survival models in Cohort survival model   **3**

Answer b or c

b   Derive the formula for final distribution of residential population in multiregional case:$P = (I - HS)^{-1}HE^P$ **6**

c   The exponential growth model $A = 30e^{(0.0190826)t}$ describes the population of a city in thousands, t in years after 1994. Use this model to solve the following: **6**

     i.   What was the population in city in 1994?
     ii.   What is the percentage increase in population in each year?
     iii.   What will be the population in 2005?

When will the city population reaches 60 thousand?

Q.no.	Module 2	Marks

2.a   What do you understand by range and threshold of a good? Discuss its implication with respect to the size of settlement.   **3**

Answer b or c

b   Explain various methods of delineation of a region.   **6**

c   i.   Discuss the concepts of region and space   **6**
     ii.   What are the requirements of ideal planning region?

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Q.no.	Module 3	Marks
3.a	Explain the allocation functions of Lowry's model of land use	3

Answer b or c

b	Draw a detailed flowchart to depict the sequence of activities as adopted for Lowry's model of land use	6
c	Explain different criteria for defining urban spatial structure	6

Q.no.	Module 4	Marks
4.a	What are the factors considered in freight transportation planning	3

Answer b or c

b	i. Write short note on intermodal freight transportation. ii. Explain how input output models are useful in freight demand planning.	6
c	With the help of a flow chart explain multi-step freight planning models. Explain its sub-models and data inputs	6

Q.no.	Module 5	Marks
5.a	Write a note on 'Minimum spanning tree' and 'Greedy triangulation' and their relevance in network generation.	4

Answer b or c

b	What are the various parameters used for network generation and evaluation	8
c	Write in detail the advantages of algorithms in network analysis. Describe any one algorithm used for finding the shortest path.	8

Q.no.	Module 6	Marks
6.a	Distinguish between corridor route, residential route, activity route and transfer route.	4

Answer b or c

b	Give in detail, the step by step procedure of implementing a proposed frame work of public transport network	8
c	Explain how do the alignments of the four basic types of bus routes selected during the process of network planning.	8