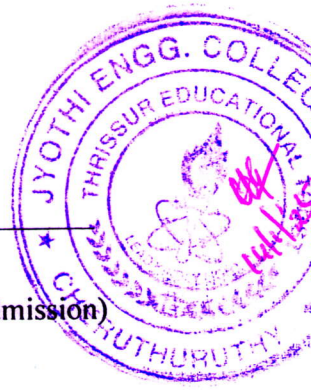


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fifth Semester B.Tech (Hons.) Degree Examination December 2024 (2022 Admission)



Course Code: CET 395

Course Name: TRANSPORTATION SYSTEMS MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks)

Marks

- | | | |
|----|---|---|
| 1 | List out any 3 objectives of transportation systems management. | 3 |
| 2 | Illustrate the procedure for implementing and reviewing transportation system management measures. | 3 |
| 3 | What do you understand by multi modal coordination of transportation system? | 3 |
| 4 | List out any 3 services that a passenger would expect from a transit system. | 3 |
| 5 | List out any 3 types of bus route network and explain about the suitable conditions under which each of them can be selected. | 3 |
| 6 | Explain about any one method to assess the financial performance of a bus route network. | 3 |
| 7 | Highlight any 3 advantages of pedestrianisation. | 3 |
| 8 | What is the aim of local area traffic management? | 3 |
| 9 | List out any 3 limitations of the conventional transit systems adopted in the state of Kerala. | 3 |
| 10 | What is your understanding about the proposed K-Rail project in Kerala? | 3 |

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

- | | | |
|----|---|---|
| 11 | a) Explain about the need for adopting traffic calming measures within city limits. Illustrate any 3 traffic calming strategies which can be implemented in the state of Kerala | 6 |
|----|---|---|

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- b) Do you expect that transportation systems management is an inevitable component for the overall development of India? Justify your opinion with valid reasons. 8
- 12 a) Do you think that staggering of working hours in educational institutions can help to reduce traffic congestion? If so, how can it be implemented? 6
- b) Imagine that you are appointed as the transportation planner for the state of Kerala. Illustrate any 4 measures that you would adopt for improving the vehicular flow in major cities of Kerala. 8

Module -2

- 13 a) Transit and para transit transportation in the state of Kerala, still lacks a proper coordination. What can be the possible reasons for this? List out any 3 measures to overcome this hindrance and ensure proper transit- para transit integration. 6
- b) Preferential treatments to high occupancy vehicle lanes can help to migrate passengers from private vehicles to public vehicles. Highlight any 4 methods that can be adopted to facilitate preferential treatment to high occupancy vehicles. 8
- 14 a) Explain about any 3 strategies to promote the use of public transport facilities within the state of Kerala. 6
- b) Explain about any 4 transit system characteristics, which can be used to assess the performance of a transit facility. 8

Module -3

- 15 a) Explain about any 3 methods to improve the quality of service provided by a public bus facility. 6
- b) Explain about any one method for fixing bus route alignment, with the help of an example. 8
- 16 a) Explain about any 3 indicators that can be used to evaluate the effectiveness of a public bus facility 6

- b) Imagine that you are assigned with the task of fixing the frequency and trip distance of bus route, for a public bus facility in a city. Explain any 4 factors that you would consider during the design phase. 8

Module -4

- 17 a) Local area traffic management should be implemented only after assessing the existing traffic condition of the particular area where it is proposed to be adopted. Justify this statement with the help of an example. 6
- b) Explain about any 4 strategies to promote the use of non-motorized transport mode in city limits. 8
- 18 a) Illustrate any 3 strategies by which a transport planner can ensure safe movement of bicycles trying to cross a junction. 6
- b) Consider a situation where you are assigned with task of designing a pedestrian facility. Which level of service would you adopt for the new facility? Justify your opinion with valid reasons. 8

Module -5

- 19 a) Do you think that automated highways can help to reduce the existing congestion problems within the city limits of India? Justify your opinion with the help of examples. 6
- b) What are the major limitations of conventional transit system? Suggest any 4 methods to overcome these limitations. 8
- 20 a) Illustrate the working principle of light rail transit and monorail. 6
- b) Highlight the major features of any 4 advanced transit technologies, which can be adopted in India during the next 5-year transportation planning phase. 8
