Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

M.Tech Degree S2 (R,S) Examination May 2025 (2022 scheme)

Course Code & Name

222TCE004 TRAFFIC ENGINEERING

Max. Marks: 60 Duration: 2.5 Hours

PART A

Answer all questions. Each question carries 5 marks Marks

1 Explain the vehicular characteristics of a traffic stream. (5)

2 What are the applications of spot speed studies? (5)

3 Explain with figure, the concept of bandwidth and offset for one way streets. (5)

4 Mention the features of any three traffic stream models. (5)

5 Illustrate sampling in traffic studies with brief explanation. (5)

PART B

Answer any 5 questions. Each question carries 7 marks

6 Explain the road user characteristics and its influence on design and performance of road traffic. (7)

7 Describe the floating car method of travel time and delay study. (7)

8 Explain the methodology for determining the Capacity and Level of Service of a multilane highway as HCM. (7)

9 Write short notes on Vehicle actuated signals and Area traffic control. (7)

10 Briefly explain the car following models and Boltzmann like behaviour of traffic? (7)

11 The maximum capacity of a 2 lane carriageway of a four lane dual carriageway is 2000veh/hr. Due to pipe laying operations the width of the 2 lane carriageway is reduced, restricting the maximum capacity to 1100veh/hr. When the flow (7)

upstream beyond the influence of the bottleneck is reasonably steady and free flowing at 1500 veh/hr, find i) the mean speed of traffic in the bottleneck; ii) the rate at which the queue of congested conditions outside bottleneck grows. The mean space headway when the vehicles are stationary is 8m. The relation between speed and concentration is linear.

12a Discuss the applications of Probability and Statistics in Traffic Engineering with an example. (4)

b Explain the significance of simulation in Traffic Engineering. (3)

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