

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: CE 366
Course Name: TRAFFIC ENGINEERING AND MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

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|---|---|------|
| 1 | a) Explain the traffic management measures adopted for restricting the turning movements. | (5) |
| | b) What is tidal flow operation in traffic management system? | (5) |
| | c) Write short notes on traffic calming measures. | (5) |
| 2 | a) Explain how the points of traffic conflict are reduced by introducing one way streets. | (5) |
| | b) Write short notes on traffic segregation methods. | (5) |
| | c) What are the applications of ITS in traffic engineering? | (5) |
| 3 | a) Write short notes on Motor Vehicle Act. | (5) |
| | b) Explain the different aspects covered in the regulation of vehicles and drivers | (10) |

PART B

Answer any two full questions, each carries 15 marks.

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| 4 | a) Differentiate between basic, practical and possible capacity of highways. | (5) |
| | b) Explain the various Level of Services as per HCM and what are the factors affecting the capacity and LOS. | (10) |
| 5 | a) Differentiate between at grade intersections and grade separated intersections with sketches. | (5) |
| | b) Explain with a neat diagram, the various design elements of a rotary type intersections. How the capacity of a rotary is determined? | (10) |
| 6 | a) Write short notes on Signal Coordination. | (5) |
| | b) Explain the Webster's approach for the design of a fixed time traffic signal. | (10) |

(Turn over)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) What are the significant uses of accident data? (5)
- b) Explain with neat sketches the collision and condition diagrams in accident analysis. (5)
- c) Explain the influence of various factors on road accidents. (10)
- 8 a) Explain the fundamental diagrams of traffic flow and derive a relationship between flow, speed and density. (10)
- b) On a two-lane carriage way, The maximum traffic flow per lane on the un obstructed carriage way is 2500 veh/hr and when stationary, vehicles are spaced at an average distance headway of 8m. Assuming a linear relationship between speed and density, calculate the free flow speed of the carriageway. (5)
- c) Explain car following theory. Discuss any 2 models. (5)
- 9 a) Explain in detail the basic concepts of Lighthill and Whitham's theory. (10)
- b) Explain various methods of collecting accident data. How the accident data is expressed? (10)
