

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 |
|---|---|-------|
| 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.*

- |   |   |      |
|---|---|------|
| 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)

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