

8E4036rtuonline.com **8E4036** rtuonline.com**B.Tech. VIII Semester (Back) Examination, April/May 2017****Civil Engineering****8CE4.3 Advance Transportation Engg.**

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Time : 3 Hours**Maximum Marks : 80
Min. Passing Marks : 26****Instructions to the Candidates:**

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitable be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Unit - I

1. a) Define the term traffic volume. What are the objectives of carrying out traffic volume studies? (8)
- b) Enumerate the different methods of carrying out traffic volume studies. Indicate the principle of each. (8)

OR

1. a) Write detail note on : (2×4=8)
 - i) Spot speed study
 - ii) Parking studies
- b) What do you understand by Thirtieth (30th) highest hourly volume. How average speed, cumulative speed & modal speed are differ from each other. (8)

Unit - II

2. a) Write short note on : (3+3+3=9)
 - i) Sampling Theory.
 - ii) Negative Binomial Distribution (Pascal).
 - iii) Linear Regression.
- b) Vehicles at a stop sign require a seven - second headway through the main street traffic flow to cross the stream. If the flow rate of the main stream is 1100 vehicles per hour, what is the probability that any given head way will be 7 seconds or greater? (7)

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2. a) One hundred spot speeds were observed on a local road, as shown below. Analyze these observations to find the mean, standard deviation, and standard error of the mean. Also draw a histogram and a cumulative frequency distribution curve. (10)

mph	15	16	17	18	19	20	21	22	23	24	25
Frequency	1	0	3	16	18	24	21	14	2	0	1

- b) Write short note on : (3+3=6)
- Discrete Distributions.
 - Continuous Distributions.

Unit - III rtuonline.com

3. a) Briefly explain different vehicular characteristics which affect the road design. (8)
- b) What is the significance of road user characteristics in traffic engineering? Discuss briefly the various factors which affects the road user characteristics and their effects in traffic performance. (8)

OR

3. a) Explain briefly the various design factors that are to be considered in rotary intersection design. (6)
- b) Design the timings of an isolated signal to be installed at a right angled intersection when roads 'A' and 'B' cross. The data available are : (10)

	Road A	Road B
Width, metre	10.5	14.0
Peak hour traffic volume, vehicles per hour per lane	120	200
Approach speed, kmph	35	50

Unit - IV

4. a) What are the various types of traffic markings commonly used explain with suitable diagrams? What are the uses of each? (8)
- b) What are the various types of traffic islands used Explain with suitable diagram. Explain the uses of each. (8)

4. a) Enumerate in detail the various traffic laws used in India & abroad. (7)
- b) Write short note on : (3+3+3=9)
- i) Street lighting.
 - ii) Kerb Parking Control.
 - iii) Regulations and ordinances for Drivers.

Unit - V

5. a) Write detail note on the effects of noise pollution on ecological system. (8)
- b) Write short note on : (4+4=8)
- i) Visual Intrusion.
 - ii) Aesthetics.

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OR

5. a) Write detail note on the possible measures for improving pedestrian safety at intersections. (8)
- b) Describe at least three facility design modifications that may be used to mitigate impacts on nearby wildlife habitat. (8)

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