

Code No: RT42012E

R13

Set No. 1

IV B.Tech II Semester Regular Examinations, April/May - 2017

TRAFFIC ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) What is a design vehicle? [3]
- b) What is the principle used in the car following theory? [4]
- c) Briefly discuss about location files and spot maps. [3]
- d) What are the major pollutants emitted from road traffic? [4]
- e) Define basic capacity. [4]
- f) Define IVHS. [4]

PART-B (3x16 = 48 Marks)

2. a) What are the characteristics of road users? [8]
- b) Explain various methods for determining the spot speed. [8]
3. a) Explain various microscopic and macroscopic flow characteristics. [8]
- b) Discuss about density measurement techniques. [8]
4. a) Classify the different types of traffic signs and mention the general objective of each type of sign. Explain them with neat sketches. [8]
- b) What are the advantages and disadvantages of traffic signals? [8]
5. a) What are the detrimental effects of traffic noise on environment? [8]
- b) What are the measures for controlling air pollution from road traffic? [8]
6. a) Explain various factors affecting capacity and level of service of roads. [8]
- b) Explain the capacity of freeways and express ways in rural areas. [8]
7. a) What is the role of IVHS in Traffic Surveillance? [8]
- b) What are the benefits of IVHS? [8]



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Set No. 2

IV B.Tech II Semester Regular Examinations, April/May-2017

TRAFFIC ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) What is spot speed? [3]
- b) What is Time headway? [4]
- c) Briefly discuss about condition diagrams and collision diagrams. [3]
- d) What are the acceptable levels of noise? [4]
- e) Define possible capacity. [4]
- f) What is the necessity of IVHS in traffic engineering? [4]

PART-B (3x16 = 48 Marks)

2. a) What are the characteristics of vehicles in the traffic stream? [8]
- b) Explain various methods for counting traffic volume. [8]
3. a) Discuss about microscopic and macroscopic speed characteristics. [8]
- b) What are the characteristics of distance headway? [8]
4. a) Explain various factors to be considered during the design of traffic signal [8] timings.
- b) Outline the IRC method of traffic signal design. [8]
5. a) Explain various techniques available for control of traffic noise? [8]
- b) What are the detrimental effects of air pollutants on environment? [8]
6. a) Discuss about the capacity of two-lane rural highways without access control. [8]
- b) Explain the operating conditions of different levels of service as per HCM manual. [8]
7. a) What are the various IVHS Programs used in traffic surveillance and monitoring. [8]
- b) What are the benefits and costs of IVHS? [8]



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Set No. 3

IV B.Tech II Semester Regular Examinations, April/May-2017

TRAFFIC ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) What is running speed? [3]
- b) What is distance headway? [4]
- c) What are the stages of road safety audit? [3]
- d) How the noise levels are measured? [4]
- e) What is level of service? [4]
- f) Discuss about the importance of IVHS. [4]

PART-B (3x16 = 48 Marks)

2. a) How the urban highways are classified in India? [8]
- b) Explain the procedure for moving observer method. [8]
3. a) Explain various microscopic and macroscopic density characteristics. [8]
- b) Discuss about vehicular speed trajectories. [8]
4. a) What are the various types of traffic markings commonly used? What are the uses of each? [8]
- b) Explain how the accident analysis will be carried out? [8]
5. a) Discuss about various kinds of air pollutants? [8]
- b) How the air quality is measured? Also mention various air pollution standards. [8]
6. a) Explain the capacity of multi lane rural highways without access control. [8]
- b) What are the factors considered in evaluating the level of surface? [8]
7. a) Explain various IVHS categories used in the field of traffic engineering. [8]
- b) What is the role of IVHS in Traffic Monitoring? [8]



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Set No. 4

IV B.Tech II Semester Regular Examinations, April/May - 2017

TRAFFIC ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) What is journey speed? [3]
- b) Briefly discuss about density contour maps. [3]
- c) What are the different causes of traffic accidents? [4]
- d) How the noise levels are predicted? [4]
- e) What is practical capacity? [4]
- f) What are the advantages of IVHS? [4]

PART-B (3x16 = 48 Marks)

2. a) How the rural highways are classified in India? [8]
- b) What are the uses of collecting an accident data? [8]
3. a) Explain Temporal, Spatial and model flow patterns. [8]
- b) What are the uses of Travel time and delay studies? [8]
4. a) Explain briefly the principle of Webster's method of signal design. Mention the advantages of this method. [8]
- b) Explain the importance of road safety audit. [8]
5. a) What are the detrimental effects of traffic on environment? Discuss about air pollution and noise pollution. [8]
- b) What are the various categories in the generation of noise caused by road traffic? [8]
6. a) Discuss about the capacity of urban streets? [8]
- b) Differentiate between the capacity of rural and urban highways. [8]
7. a) What are the applications of IVHS in traffic engineering? [8]
- b) What are the demerits in Intelligent Vehicle Highway Systems? [8]

