Code No: **RT42012E** **R13** **Set No. 1**

IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2019

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 do you mean by pedestrian? Why pedestrian lane is important? [4]
   b) What is time headway? [3]
   c) What is meant by signal coordination? [3]
   d) How air quality can be measured? [4]
   e) What is basic capacity? [4]
   f) What is IVHS? Write its applications. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain various human factors governing road user behavior. [8]
   b) Explain the classification of highways. [8]

3. a) Discuss about microscopic and macroscopic flow characteristics. [8]
   b) What are the various uses of travel time and delay studies? [8]

4. a) Discuss in detail about various kinds of road markings. [8]
   b) Explain about analysis of traffic accidents. [8]

5. a) What are the different techniques for controlling traffic noise? [8]
   b) Mention the air quality standards. [8]

6. a) What is level of service? What are the factors affecting capacity and level of service? [8]
   b) Discuss about capacity and level of service of urban roads. [8]

7. a) Explain the role of IVHS in traffic surveillance and monitoring. [8]
   b) Explain various IVHS categories. [8]

Code No: **RT42012E** **R13** **Set No. 2**

IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2019

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) Define spot speed. [4]
   b) What are microscopic speed characteristics? [3]
   c) What is road safety audit? [3]
   d) What is noise pollution? [4]
   e) What is possible capacity? [4]
   f) What are various IVHS programs? [4]

PART–B *(3x16 = 48 Marks)*

2. a) What are the vehicle characteristics? [8]
   b) Write the objectives of traffic volume studies? [8]

3. a) Discuss about microscopic and macroscopic density characteristics. [8]
   b) Explain about distance headway characteristics. [8]

4. a) With neat sketches show various types of traffic signs, classifying them in proper groups. [8]
   b) Explain the IRC method of traffic signal design. [8]

5. a) What are the measures for controlling air pollution? [8]
   b) How are the sound levels measured? [8]

6. a) Explain about the level of service concept in the HCM manual. [8]
   b) Discuss about various operating conditions for different levels of service in a two lane rural highways without access control. [8]

7. a) What are various advantages of IVHS? [8]
   b) Is IVHS preferable in economic point of view? [8]

Code No: **RT42012E** **R13** **Set No. 3**

IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2019

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) Define traffic volume. [4]
   b) What are microscopic flow characteristics? [3]
   c) Write about fixed signals. [3]
   d) What is air pollution? [4]
   e) What is HCM? [4]
   f) What is the purpose of IVHS in traffic engineering? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain the procedure for floating car method. [8]
   b) What are the various causes of road accidents? [8]

3. a) Describe about Car-following theories. [8]
   b) Discuss about density contour maps. [8]

4. a) Explain about fixed and vehicle activated signals. [8]
   b) How are the accident records maintained? [8]

5. a) What are the detrimental effects of traffic noise? [8]
   b) Discuss about various kinds of air pollutants. [8]

6. a) What is the importance of capacity in highway transportation studies? [8]
   b) Discuss about various operating conditions for different levels of service in a multi lane rural highways without access control. [8]

7. a) Discuss in detail about Intelligent Vehicle Highway Systems. [8]
   b) Explain about various IVHS programs used in traffic monitoring. [8]

Code No: **RT42012E** **R13** **Set No. 4**

IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2019

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 do mean by journey speed? [4]
   b) What are macroscopic speed characteristics? [3]
   c) What is signal phasing? [3]
   d) How sound levels are measured? [4]
   e) What is level of service? [4]
   f) What is IVHS? Write its applications. [4]

PART–B *(3x16 = 48 Marks)*

2. a) What are the objectives of speed studies? [8]
   b) What are the various aspects to be investigated in parking studies? [8]

3. a) Write about the mathematical distribution in speed studies. [8]
   b) What are various density measurement techniques? [8]

4. a) Explain the procedure for Webster's method of traffic signal design. [8]
   b) Discuss about highway safety improvement program. [8]

5. a) What are the different sources of noise generation by road traffic? [8]
   b) What are the acceptable levels of noise? [8]

6. a) Define basic capacity, practical capacity and possible capacity according to HCM 1950. [8]
   b) Discuss about various operating conditions for different levels of service in freeways and express ways in the rural areas. [8]

7. a) How IVHS helps in traffic surveillance? [8]
   b) Explain the use of IVHS in various countries. [8]