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

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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]

Code No: **RT42012E** **R13** **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

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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 timings. [8]
   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]

Code No: **RT42012E** **R13** **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

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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]

Code No: **RT42012E** **R13** **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

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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]