

**Code No: M0127****R07****Set No. 1****IV B.Tech. I Semester Regular Examinations, November, 2012****TRAFFIC ENGINEERING****(Civil Engineering)****Time: 3 Hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks**

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1. a) Derive the relationship between speed, volume and density related to traffic?  
b) What is capacity flow? How is it related to the other parameters of traffic? [8+8]
2. a) Define Traffic volume studies? What are the objects and uses of traffic volume studies?  
b) What is spot speed study? How is it conducted in the fields? Explain the statistical methods for analysis of spot speed data? [8+8]
3. a) Explain the concept of Level of Service with the help of a sketch?  
b) Define capacity? Explain the various factors affecting capacity? [8+8]
4. a) What is Parking studies? What are the steps to be conducted for performing the study in the field?  
b) Describe the various off – street parking facilities to be designed? [8+8]
5. a) What are the various traffic problems on urban streets? Highlight the importance of traffic control and regulation with respect to the problems.  
b) Explain the different steps in signal design by Webster's method? [8+8]
6. a) Discuss the detrimental effect of traffic on the environment?  
b) Explain the various measures to reduce Noise Pollution? [8+8]
7. a) What are traffic signs? Explain the different types of traffic signs with sketches?  
b) Describe the different types of pavement markings with specifications and standards? [8+8]
8. Write short notes on the following
  - a) Principles of Road safety audit
  - b) Peak hour factor
  - c) Highway safety
  - d) Noise pollution due to Traffic. [4x4 =16]

**Code No: M0127****R07****Set No. 2****IV B.Tech. I Semester Regular Examinations, November, 2012****TRAFFIC ENGINEERING****(Civil Engineering)****Time: 3 Hours****Max Marks: 80****Answer any FIVE Questions  
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1. a) Describe the basic characteristics of traffic flow with reference to their relationship of speed, density and volume of flow?  
b) Explain the effect of varying volume from zero to need capacity on the other two parameters, i.e. Speed and density of traffic? [8+8]
2. a) Explain the concept of passenger car units?  
b) How is the traffic volume data finally presented? [8+8]
3. a) Define capacity of a road way? Explain its importance with reference to level of service concept?  
b) What is peak hour factor? How is it related to service volume of a road? [8+8]
4. a) Explain the technique of parking survey by patrolling method? How is the parking data analysed?  
b) What is Multi story car parking facility? What are its design standards? [8+8]
5. a) Discuss the advantages and disadvantages of traffic signals?  
b) Discuss the advantages of channelized intersections compared to unchannelized intersections with neat sketches? [8+8]
6. a) Define Noise Pollution? What are the various measures to reduce noise pollution?  
b) What are the various pollutants caused due to vehicular traffic? Enumerate their detrimental effect on the environment? [8+8]
7. a) Describe the specifications of different types of traffic signs with examples and sketches?  
b) Discuss the various measures to reduce accidents? [8+8]
8. Write short notes on the following:
  - a) Objectives of speed studies.
  - b) Level of service of urban roads.
  - c) Off – Street parking facilities.
  - d) Road markings.[4x4 =16]

**Code No: M0127****R07****Set No. 3****IV B.Tech. I Semester Regular Examinations, November, 2012****TRAFFIC ENGINEERING****(Civil Engineering)****Time: 3 Hours****Max Marks: 80****Answer any FIVE Questions  
All Questions carry equal marks****\*\*\*\*\***

1. a) Explain the method of conducting speed and delay studies in the fields by floating car method? How is the data analysed?  
b) What are the aims and objectives of conducting volume studies? [8+8]
2. a) Describe the basic characteristics of traffic flow?  
b) Explain the various statistical methods of analysis of speed data? [8+8]
3. a) Explain the concept of level of service for freeway in Rural areas?  
b) Enumerate the importance of Capacity in Highway Transportation studies? [8+8]
4. a) Describe the ill – effects of parking?  
b) Explain the common methods of on – street parking with help of the sketches? [8+8]
5. a) Explain the general principles of traffic signing? Also, highlight the importance of traffic signs?  
b) What are the three different types of signals? Discuss their advantages and disadvantages? [8+8]
6. a) Explain in detail, the detrimental effects of traffic on the environment?  
b) What are the various measures for controlling air pollution? [8+8]
7. a) Highlight the traffic problems in urban areas and the importance of traffic control and regulation to solve the problems to a certain extent?  
b) Explain the various factors that cause accidents on roads? [8+8]
8. Write short notes on the following  
a) Collision diagrams and condition diagram  
b) Pollutants due to traffic.  
c) Fundamental diagram of traffic flow.  
d) Object markings. [4x4 =16]

**Code No: M0127****R07****Set No. 4****IV B.Tech. I Semester Regular Examinations, November, 2012****TRAFFIC ENGINEERING****(Civil Engineering)****Time: 3 Hours****Max Marks: 80****Answer any FIVE Questions  
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1. a) Derive the linear relationship between speed and Concentration?  
b) Explain the fundamental diagram of traffic flow and drive the relationship between maximum flow and jam density? [8+8]
2. a) Enumerate the use of spot speeds, journey speeds and delays in traffic engineering?  
b) Derive the relationship between time mean speed and space mean speed? [8+8]
3. a) What is level of service concept in the HCM manual?  
b) What is the difference between Basic capacity and possible capacity? Also, explain the various factors affecting capacity and level of service? [8+8]
4. a) Describe the various type of parking surveys conducted in the fields?  
b) What are the various types of off – street parking facilities commonly considered? Explain with sketches? [8+8]
5. a) What are the objectives of Co-ordination of signals? Explain the different types of Co-ordinated signal system?  
b) Explain the advantages of channelization? What are the different types of channelization islands? Describe with sketches? [8+8]
6. a) Enumerate the measures to reduce air pollution due to traffic?  
b) Discuss the various engineering, enforcement and educational measures to reduce Road accidents? [8+8]
7. a) How are the different Carriage way markings categorized? Explain with sketches?  
b) Enumerate the uses of collection of accident data? [8+8]
8. Write short notes on the following
  - a) Capacity of Rotary Intersections
  - b) Application of normal distribution in traffic engineering.
  - c) Signal design by Webster method.
  - d) Presentation of traffic volume data. [4x4 =16]