

Code No: 07A70106

R07**Set No. 2**

IV B.Tech I Semester Examinations, December 2011
TRAFFIC ENGINEERING
Civil Engineering

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Discuss about the air pollution caused by road traffic and the measures that can be employed to reduce the same.
(b) How the changes in vehicle design and change in the road surface can reduce the traffic noise? Explain. [8+8]
2. Define the terms: traffic volume, speed and density and basic capacity and practical Capacity. Discuss the importance of the parameters. [16]
3. What are the causes of road accidents? Explain in detail. [16]
4. Explain the procedure involved for assessment of parking demand in view of land use and parking generation rates. [16]
5. (a) Discuss about the need for speed regulation and the general principles governing the application of speed limits.
(b) What are the types of regulations normally imposed on traffic? Explain. [8+8]
6. What are the automatic methods of organizing spot speed studies? Explain any one method in detail manner. [16]
7. How do you plan fly-overs and other bridges in urban context in connection with the capacity? What are the other factors generally considered for planning of flyovers and expansions of structures? [16]
8. Explain how the following information can be given to the drivers through road markings:
 - (a) On a two way road section, overtaking is permitted in one direction; but not permitted in the opposite direction.
 - (b) At an intersection, no vehicle is permitted to either park or to stop even for A short time also
Give colours of markings used and specifications in each case. Support your answer with neat sketches. [16]

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R07**Set No. 4**

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TRAFFIC ENGINEERING
Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. Explain various types of parking surveys. How do you conduct parking space Inventory, draw some figure layouts? [16]
2. (a) How are the speed studies presented?
 (b) What are the various objectives and application of spot speed studies? How spot speed studies are carried out? [8+8]
3. Explain the objectives of installing road traffic signs. What are the various types of traffic signs generally used for traffic control and road safety? Explain with suitable answers supported by neat sketches. [16]
4. (a) How are speed data collected.
 (b) What are the characteristics of slow moving traffic in India? Also write the mean speeds and standard deviation of slow moving vehicles. [8+8]
5. Write short notes on the following:
 - (a) Collision diagram.
 - (b) Role of Speed in accident severity and need for Speed Control.
 - (c) Pedestrian safety.
 - (d) Traffic Management measures to reduce accidents. [16]
6. Increasing traffic in urban areas is a major cause of decreasing quality of urban life. How do you justify the statement? Discuss. [16]
7. A road consists of 4 lanes, 2 in each direction; the maximum capacity of 2 lanes in one direction is 1800 vehicles/hour. When vehicles are stationary in a jamming condition, the average length occupied by a vehicle is 6.00m. During a period of observation, the actual volume of traffic in one direction is steady at the rate of 1000 vehicles /hour. Find the time in seconds which elapses from the moment the signal turns red until the stationary queue reaches another intersection 100m from the signal. Assume a linear relationship between speed and density. [16]
8. Write short notes on the following:
 - (a) Speed Control by Traffic Islands.
 - (b) Optimum Cycle Time.
 - (c) Fixed Time Signal.

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(d) Pedestrian Phase in a Traffic Signal.

[16]

JNTUWORLD

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R07

Set No. 1

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Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain how the increased traffic in urban areas is becoming an environmental problem.
(b) Discuss about the measures to be taken to reduce the adverse effects of traffic on environment. [8+8]
2. Explain the level of service concept in Highway Capacity Manual 2000. Write the factors which may be considered in evaluation of level of service. [16]
3. Differentiate between manual counting traffic and Mechanical method of traffic counts with merits & demerits and suitability. Have do you present the volume data. [16]
4. Explain the concept of multi storied parking system. What are the various factors Considered for providing multi storied parking system? [16]
5. Explain in detail how vehicle and the features associated with vehicles play a crucial role in road safety. [16]
6. What are the various warrants used for installation of Traffic Signals? Explain. [16]
7. Explain the concept of significance testing and testing of hypothesis applied to traffic engineering. [16]
8. What is the need for road markings? Explain. Also explain the use of various road markings at a four-legged urban intersection with the help of a neat diagram. [16]

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R07**Set No. 3**

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Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. Define the three types of capacity. How do you improve the capacity of bottle neck and more intersections corridors in the urban context? Give few suitable examples. [16]
2. How do you organize a traffic volume study at four legged intersection including left and right turn movements, draw a neat diagramme of four legged intersection. Also discuss the various methods of collecting volume data. [16]
3. What are the major pollutants emitted by the vehicles and what are their adverse effects? Discuss. Also explain about the measures that can reduce air pollution due to road traffic. [16]
4. Explain how spot speed, running speed and delay studies are carried out. What are the various uses of speed and delay studies? [16]
5. What are the parking policy objectives? Explain various factors to be considered while implementation of on street parking plan. [16]
6. With the help of neat diagrams, explain the use of Condition diagram and collision diagram in accident data collection and analysis. [16]
7. (a) Explain the use of Direction Signs and Advance direction signs. Give suitable examples.
 (b) What are over head signs? What type of locational features warrant the use of overhead signs? Explain. [16]
8. A North-South road meets an East-West road forming a junction and only straight flows are permitted on these roads. The total width of North-South road is 14 m and the total width of East-west road is 12 m. For each directional flow half of the road width is given in both cases. If the peak hour volumes are as given, design a two phase signal based on Webster method.

From	North(N)	South (S)	East (E)	West (W)
Flow, PCU/hr	800	600	700	800

Give phasing diagram and the timing diagrams. Take time lost due to starting delays as 2 seconds. [16]
