

Code No: 07A70106

R07

Set No. 2

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

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Give the classification of Traffic Signs and explain their objectives. Also explain the design specifications for each type of sign and give two examples for each type. [16]
2. (a) Explain the concept of saturation flow rate at a signal with a neat diagram and discuss about the effective green time and time lost due to starting delays.
(b) Explain the procedure of traffic signal design based on Webster Method. [8+8]
3. Write short notes on:
 - (a) Effects of Traffic Noise.
 - (b) Control of Traffic Noise.
 - (c) Effects of Air pollution.
 - (d) Measures to reduce air pollution. [16]
4. What kind of parking policies are to be introduced to maximize revenue, encourage short time parking and encourage long term parking. [16]
5. (a) How do you convert the traffic volume data into passenger car unit?
(b) Describe the procedure for conducting speed studies? [8+8]
6. Describe whether channelisation of road improves the capacity or decrease the Capacity? How the channelisation affects the level of service. [16]
7. Describe various macroscopic stream models represent how the behaviour of one parameter of traffic flow changes with respect to another. Most important among them is the relation between speed and density. [16]
8. What do you understand by Road Safety Audit? What are the various steps involved in Road Safety Audit? Explain with the help of a flow chart. [16]

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Civil Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
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1. (a) What are the adverse effects of noise generated by road traffic? Discuss. Also describe the sources of traffic noise.
(b) Discuss about the possible measures to reduce road traffic noise. [8+8]
2. (a) Explain the classification of accidents based on the movements involved.
(b) Explain how the deficiencies in the road engineering design can be a causative factor for accidents by giving suitable examples. [8+8]
3. Explain the problems created by traffic, need of parking studies and describe various effects of parking in general? [16]
4. Discuss about the traffic regulatory measures aimed at reducing automobile usage in urban areas. [16]
5. Explain the traffic volume counts procedure using video photography technique? Describe the need of video graphic recording? Also discuss the other methods of collecting data? [16]
6. Describe the standard equipments used in traffic data collection; write the detailed procedure for conducting the traffic surveys by manual and mechanical methods. [16]
7. (a) What do you understand by informatory signs? Explain with suitable examples.
(b) When do you use Chevron marking on roads? Explain with examples and sketches. [8+8]
8. Mention the levels of service and the related operating conditions of multilane rural highways without access control? Write the design capacities of dual carriageways other than motors in UK/IRC. [16]

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R07**Set No. 1**

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

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

Answer any FIVE Questions
All Questions carry equal marks

1. Distinguish between off street parking system and on street parking system with merits and demerits? [16]
2. Explain the concept of service volume and capacity? Write the formula for finding out the capacity in vehicles per hour per lane. [16]
3. (a) What are the various types of Traffic Signs used in Traffic control and regulation? Give the design specifications of each type.
 (b) With the help of suitable examples, explain the difference between cautionary and regulatory signs. [8+8]
4. Write short notes on the following:
 - (a) Median openings.
 - (b) Design for U Turns.
 - (c) Channelization at T intersection.
 - (d) Channelization at Staggered intersection. [16]
5. The free speeds of vehicles on Indian roads are somewhat lower than in the developed countries, explain various possible reasons? Twenty spot speed observations were taken and were as under : 40, 55, 50, 60, 52, 38, 45, 47, 51, 56, 43, 52, 50, 41, 34, 47, 42, 45, 40, 64, 60, 69, 55, 48, 56. Calculate space mean and time mean speed and verify the relation between the two. [16]
6. What are the various factors generally considered for traffic volume data collection with a standard format as per the HCM /IRC. Discuss the various methods. [16]
7. Write short notes on the following:
 - (a) Road Traffic Noise.
 - (b) Visual Intrusion due to Traffic.
 - (c) Vibrations caused by traffic and their effects.
 - (d) Measures to control air pollution by traffic. [16]
8. What are the steps involved in Road Safety Audit of a highway Project? Explain. If a particular stretch of a National Highway is under construction and if a Road Safety Audit is to be conducted for that section, discuss about the factors to be examined and analysed. [16]

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R07**Set No. 3**

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

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

Answer any FIVE Questions
All Questions carry equal marks

1. What are the detrimental effects of traffic on Environment? Explain in detail. [16]
2. What are the various factors affecting capacity and level of service according to Road way factors and Traffic factors. Explain each factor in brief manner. [16]
3. (a) What are the objectives served by road markings? Explain. Also list out various types of road markings.
 (b) With the help of neat sketches explain the use of obstruction approach markings. [8+8]
4. How do you count the traffic at four legged intersection, explain with neat sketch? Write the significance of 30th highest hourly volume for creation of any transportation infrastructure facility. Explain the other ways of presenting data? [16]
5. Discuss about the following with suitable examples:
 - (a) Driver as a cause of accidents.
 - (b) Pedestrian as a cause of accidents.
 - (c) Passenger of a bus as a cause of accident.
 - (d) Vehicle as a cause of accidents. [16]
6. With the help of neat sketches explain how the following objectives can be achieved by channelization:
 - (a) Control of Speed.
 - (b) Protection to turning traffic at intersections.
 - (c) Elimination of excessive intersection area.
 - (d) Protection to pedestrians at intersections. [16]
7. The free speed of traffic is observed to be 80 kmph and the jamming concentration is observed to be 200 /km. Under light flow conditions, it is observed that there are 1000 vehicles per hour. A large truck traveling at 12 kmph enters the stream, forcing the vehicles behind to queue up and move in a platoon. Find the speed at which the platoon grows. [16]
8. How do you provide loading and unloading parking facilities for different kinds of vehicles in the CBD areas, Give standard dimensions of slots. [16]
