CBCS SCHEME

USN | | | | | | | | | | |

17CV561

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Traffic Engineering

Time: 3 hrs. Max. Marks: 100

Note: ***Answer FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Define traffic engineering and explain its scope. **(10 Marks)**

b. Explain the different resistances to be considered in vehicle movement. **(10 Marks)**

OR

2 a. In detail explain the road user characteristics. **(10 Marks)**

b. A vehicle of mass 1800 kg has to accelerate at 2 m/sec^2 from a speed of 12 KMPH to 22 KMPH in the first gear. The gradient is +1.2% and the co-efficient of rolling resistance is 0.025. The frontal area and co-efficient of air resistance are 2.38 m^2 and 0.37 respectively. Determine the engine horse power required. **(10 Marks)**

Module-2

3 a. List the objectives and uses of,
(i) Origin and destination studies.
(ii) Parking studies. **(10 Marks)**

b. Discuss the various traffic studies and what are the objects of carrying out traffic volume studies? **(10 Marks)**

OR

4 a. Write the objectives of accident studies, also mention the various causes of accidents. **(10 Marks)**

b. A vehicle of weight 2.0 tonnes skids through a distance equal to 40 m before colliding with another parked vehicle of weight 1.0 tonne, after equal to 12 m before stopping. Compare the initial speed of the moving vehicle. Assume co-efficient of friction as 0.5. **(10 Marks)**

Module-3

5 a. Explain the following with examples,
(i) Regulatory signs.
(ii) Warning signs.
(iii) Informatory signs. **(10 Marks)**

b. Briefly explain at grade and grade separated inter section. **(10 Marks)**

OR

6 a. List the advantages and disadvantages of traffic signals. **(10 Marks)**

b. The average normal flow on cross roads 'A' and 'B' during design period are 400 PCU and 250 PCU per hour. The saturation flows are 1250 PCU and 1000 PCU per hour respectively. The all red time required for pedestrian crossing is 12 seconds. Design a two phase signal by Webster's method. **(10 Marks)**

Module-4

7 a. Explain various design factors of road lighting. **(10 Marks)**

b. Discuss the effect of air pollutants. **(10 Marks)**

OR

8 a. Explain the measures to control the traffic noise. (10 Marks)
b. Write short notes on road safety audit. (10 Marks)

Module-5

9 a. Explain (i) TSM (Traffic System Management)
(ii) TDM (Traffic Demand Management) (10 Marks)
b. What are the applications of ITs? (10 Marks)

OR

10 a. Enumerate the basic principles of traffic regulation. (10 Marks)
b. Explain the factors determining skid resistance. (10 Marks)

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