B. Tech. (Civil Engg.)
BTCLEVI
Term-End Examination
June, 2013

BICE-020 : TRANSPORTATION ENGG. II

Time : 3 Hours *Maximum Marks : 70*

Note : *Attempt **any seven** questions. All questions carry **equal** marks.*

1. (a) Explain the characteristics of road transport. 5

    (b) Discuss briefly the stages for a new highway project. 5

2. (a) Write the salient features of Nagpur Road Plan. 5

    (b) Explain the objectives of highway planning. 5

3. (a) Discuss briefly the design factors in geometric design of highway. 4

    (b) Calculate the safe stopping sight distance for design speed of 50 kmph for two way traffic on a two lane road. 6
    Assume f = 0.37 (coefficient of friction)
    reaction time of driver = 2.5 seconds.

4. Define overtaking sight distance (OSD). Calculate the safe overtaking sight distance for a design speed of 96 kmph. Assume all other data suitably. **2+8=10**

5. (a) Explain 'Flexible and Rigid' pavements. 5

   (b) Draw a sketch of flexible pavement 5
   cross-section.

6. Explain the design procedure for the dimensions 10
   and spacing of tie bars.

7. Explain the term traffic volume. What are the 10
   objectives of carrying out traffic volume studies ?
   Explain the principle of different methods of
   carrying out traffic volume studies.

8. Explain traffic capacity, basic capacity, possible 10
   capacity and practical capacity.

9. (a) Write the factors to be considered in the 5
   environment studies for executing highway
   project.

   (b) Write the factors in which motor vehicle 5
   operation cost depend.

10. Write short notes on *any two* of the following : 5x2=10

    (a) Benefit cost ratio method

    (b) Annual Highway Cost

    (c) Causes of pavement failures

    (d) Properties of Road Aggregates

   ———