B.Tech. Civil Engineering

Term-End Examination

December, 2012

01383

BICE-019 : TRANSPORTATION ENGINEERING - I

Time : 3 Hours   *Maximum Marks : 70*

Note : Attempt *any seven* questions. *Use of scientific calculator is permitted.*

1. Describe in brief the objectives and steps involved **10** in the preliminary survey for a new railway alignment.

2. What are the different types of rails used in Indian **10** Railways? Explain with neat sketches.

3. What are the functions of sleepers? Discuss the **10** requirements of an ideal sleepers.

4. If a 8° curve track diverges from a main curve of **10** 5° in a opposite direction in the layout of a B.G. yard. Calculate the super elevation and the speed of branch line; if the maximum speed permitted on the main line is 45 Km/hr.

5. What are the functions of points and crossing in a railway track layout? Explain clearly with the help of neat sketches. **10**

6. What are the main objectives of signalling? Explain the engineering principles of signalling. **10**

7. Discuss in detail the factors affecting the choice of selection of site for an airport. **10**

8. What are the main features of terminal building? **10**

9. What are the different classification of harbours? Explain them. **10**

10. Write short note on *any four* of the following.

    (a) Modern techniques for safety in railways

    (b) Windrose diagram   2½x4=**10**

    (c) Port building

    (d) Construction of break waters

    (e) Navigation aids

    (f) Various tractive resistance