

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

**00354**

**June, 2017**

**BICE-019 : TRANSPORTATION ENGINEERING – I**

*Time : 3 hours*

*Maximum Marks : 70*

*Note : Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

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1. Describe in brief the objectives and steps involved in the preliminary survey for a new railway alignment. 10
  
  2. Enumerate the important fittings used in a permanent way of a Railway Transport System and their functions. 10
  
  3. (a) On a B.G.  $3^\circ$  curve, the "equilibrium cant" is provided for a speed of 70 kmph. Calculate the value of equilibrium cant. 7  
(b) What are the functions of sleepers? 3

4. Define the following terms of Railway Engineering : 5×2=10
- (a) Ballast
  - (b) Creep of Rails
  - (c) Wear of Rails
  - (d) Goods Yard
  - (e) Fouling Marks
5. Discuss the features of any two types of crossings with the help of neat sketches. 10
6. (a) Explain the factors that influence the selection of site for a Railway station. 7
- (b) What are the objectives of signalling ? 3
7. What are two systems of aircraft landing ? Explain the various facilities for navigation and traffic control provided in an airport. 10
8. (a) Give the details of a dry dock with the help of a suitable sketch. 7
- (b) What are the advantages of Inland Water Transport ? 3
9. (a) What are three types of breakwater ? Give suitable sketches. 6
- (b) Give a layout of an airport. 4

10. Write short notes on any **four** of the following :

$$4 \times 2 \frac{1}{2} = 10$$

- (a) MAGLEV
  - (b) Negative Superelevation
  - (c) Effective Gradient
  - (d) Windrose Diagram
  - (e) Points and Crossings
  - (f) Number of Crossings
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