

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

June, 2018

00603

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. (a) Write the requirements of Rails. 5
(b) Define Creep for a railway. Also write the effects of creep. 5

 2. Discuss the different types of rail joints with the help of neat sketches. 10

 3. Write notes on the following : 5+5
 - (a) Types and layouts of stations and yards
 - (b) Signals used in railway station yards

4. If the wheel base of a vehicle moving on a B.G. track is 6 m, the diameter of wheel is 1.5 m and depth of flanges below the top of rail is 3.17 cm, determine the extra width required to be provided on gauge, if the radius of the curve is 160 m. 10
5. What are the various systems of controlling the movement of trains ? Explain the working of one system which has been widely used in Indian Railways. 10
6. What are the systems of aircraft landing ? Explain the various facilities for navigation and traffic control provided in an airport. 10
7. (a) Give the details of a dry dock with the help of suitable sketch. 5
- (b) What are the advantages and disadvantages of Inland Water Transport ? 5
8. Calculate the shift and offsets at every 30 m of a transition curve. A transition curve of 90 m length is to be used to join the ends of a 4° circular curve within the straight and circular curve. 10

9. Explain in detail about lightening and traffic control systems adopted in airports. 10
10. A B.G. track has a sleeper density of $(n + 5)$. Determine the number of sleepers required for constructing a railway track 640 meters long. 10
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