

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00646

June, 2016

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.*

1. What is crossing ? Explain with sketches the component parts of crossing. 10

2. Define a permanent way and mention its components. 10

3. Define the following : 2×5=10
 - (a) Modern safety techniques adopted in railways
 - (b) Signals used in railway station-yards

4. Define the following terms : 5×2=10
- (a) Cant deficiency
 - (b) Tractive resistance
 - (c) Creep of rails
 - (d) Wear of rails
 - (e) Facing and trailing directions
5. A B.G. track has a sleeper density of $(n + 5)$. Determine the number of sleepers required for constructing a railway track 832 metres long. 10
6. What are the various systems of controlling the movement of trains ? 10
7. Explain the different types of harbours with neat sketches. 10
8. Explain the term 'basic runway length'. Also explain the procedure for determining the actual runway length required at a particular site. 10
9. What is a breakwater ? Explain the different types of breakwaters with the help of neat sketches. 10
10. Enumerate the various factors which you would keep in view while selecting a suitable site for an airport. 10
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