

Total No. of Questions : 10 ] [ Total No. of Printed Pages : 3

Roll No. ....

## **CE-302(N)**

**B. E. (Third Semester) EXAMINATION, June, 2010**

**(New Scheme)**

**(Civil Engg. Branch)**

**TRANSPORTATION BRIDGES AND TUNNELS**

**[CE-302(N)]**

*Time : Three Hours*

*Maximum Marks : 100*

*Minimum Pass Marks : 35*

**Note :** Attempt any *five* questions selecting *one* question from each Unit. All questions carry equal marks. Assume suitable data if found necessary.

### **Unit-I**

1. (a) Explain the importance of Railway transportation in India and all over the world. 10
- (b) Discuss the various types of Tractive Resistances which a locomotive has to overcome on railway track. 10

*Or*

2. (a) How rails are welded ? Explain the advantages of welding rails. 10
- (b) Compare the different types of sleepers. 10

### **Unit-II**

3. (a) A 7 degree curve branches off from a 4 degree curve (main) in an opposite direction in a B. G. yard. The speed limit in Branch line is 38 kmph. Find out the

**P. T. O.**

speed limit of main line if permitted deficiency in cast is 7.6 cm. 10

- (b) Derive an expression for finding Superelevation on a railway track. 10

*Or*

4. (a) How will you select a suitable site for a Railway Station ? 10
- (b) Explain the salient features of Marshalling Yard with the help of neat sketches. 10

### Unit – III

5. (a) Explain the various data collected for a suitable Design of Bridge. 10
- (b) Write notes on the following : 10
- (i) Scour Depth
- (ii) Economic Span

*Or*

6. (a) Discuss the different types of Road Bridges with the help of neat sketches. 10
- (b) Draw a neat sketch of Abutment. Discuss the importance of different parts. 10

### Unit – IV

7. (a) Explain the advantages of Piles and Wells Foundation through neat diagram. 10
- (b) Explain the construction of a Bridge under water and above water. 10

*Or*

8. (a) Discuss the various equipments and plants used for erection of bridges. 10
- (b) Explain the various causes of failure of bridges. 10

## Unit—V

9. (a) How an ideal route is selected for tunnel ? 10  
(b) Explain the various Engineering Surveys carried out for proper alignment of tunnel. 10

*Or*

10. (a) Discuss the different methods of construction of tunnel in soft soil through neat sketches. 10  
(b) Explain the various types of linings with the help of a neat sketch. 10