

CE - 302
B.E. III Semester Examination, Jun 2013
Transportation Bridges and Tunnels
Time : Three Hours
Maximum Marks : 70
<http://www.rgpvonline.com>

Note: (1) All questions carry equal marks.
(ii) Attempt any five questions selecting one from each unit.
(iii) Assume suitable data if found missing.

Unit-I

1. (a) What are the important characteristics of Rail Transportation and Air transportation. Explain the following terms 14

(i) Plate laying (ii) Welding of rails (iii) Requirement of good ballast,

Or

2. Briefly explain preliminary surveys for finalizing highway alignment. Explain the following

(1) Types of gauges (ii) Hauling capacity and tractive efforts (iii) Requirement of good sleepers. 14

Unit-II

3. What do you understand by points and crossing ? 14

A 8 degree curve diverges from a main curve of 5 degree in an opposite direction in a B.G. track. Determine the speed restriction on the main track assuming the following data

(1) Speed on branch line = 40 kmph.

(ii) Permissible cant deficiency = 7.6 cms.

Or

4. Briefly explain various types of general equipment in station and yards ?

Why signals and interlocking are provided on a railway track ? What do you understand by left hand turnout and right hand turnout ? 14

Unit-III

5. What are the different type of data required to be collected during site investigation and planning for bridge ? Briefly explain the following 14

(i) Bridge sub structures

(ii) Economical span of a bridge.

or

6. Explain various types of Bridges. What are the various loads considered for the design of a Bridge ? 14

Unit-IV

7. Briefly explain different types of foundations commonly used for bridge structures.

Also write short notes on sinking of wells. 14

or

8. Briefly explain the following 14

(i) Testing of bridges (ii) Bridge construction under water (iii) Factors affecting choice of bridges.

Unit-V

9. Briefly explain the following

(1) Types of lining (ii) Drainage of tunnel (iii) Construction of tunnels in soft soil

(iv) Alignment of tunnels.

Or

10. Write short notes on the following

(i) Important feature of any one tunnel in India (ii) Shape and size of tunnel

(iii) Tunnel approaches (iv) Mucking operation.