

Roll No.

Sec 13 (2016)

Total Pages : 03

BT-8/D-13

8843

RAILWAY AND AIRPORT ENGINEERING

CE-404-E

Time : Three Hours

[Maximum Marks : 100

Note : Attempt Five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

Unit I

1. (a) Discuss various gauges as used in India and abroad. How is the selection of a gauge made ?
(b) Explain the concept of continuously welded rails.
2. (a) Compare various types of sleepers giving the suitability of each type.
(b) List various fastenings used for wooden sleepers and discuss various types of bearing plates.

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Unit II

3. (a) What is a crossing ? Describe its working and functions of various components.
- (b) Explain with sketches :
 - (i) Throw of a switch
 - (ii) Curve lead
 - (iii) Triangle.
4. (a) Discuss briefly various types of signals.
- (b) Discuss the points of difference between centralized train control and automatic train control systems.

Unit III

5. (a) How is the hauling capacity of a locomotive determined ? Discuss.
- (b) Explain the concept of negative super-elevation. Where is it provided on the track ?
6. (a) Enumerate various types of stations and describe with sketches a double line junction station.
- (b) Explain briefly the main systems of maintenance of railway track.

Unit IV

7. (a) Describe briefly the factors affecting the site selection of an airport.
- (b) Discuss various runway patterns.
8. (a) How is the actual runway length obtained from basic runway length ? Explain.
- (b) Explain the factors affecting thickness design of a runway pavement.