

Roll No. ....

Total Pages : 2

BT-8/D-19

38043

RAILWAY AND AIRPORT ENGINEERING

Paper : CE-404-E

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt five questions in all, selecting at least one question from each unit.

### UNIT-I

1. (a) Discuss the various Gauges used in India. Why is it preferable to use Uniform Gauge in a country ? 8  
(b) Discuss the following :
  - (i) Advantages of Long Welded Rails.
  - (ii) Various defects in Rails. 12
2. (a) What is Creep of Rails ? How is it indicated ? Discuss the various reasons of creep in Rails and various measures to prevent creep. 12  
(b) Discuss the various types of Ballast used in Railways and also discuss the suitability of each type. 8

### UNIT-II

3. (a) Draw a sketch for a Left Hand Turnout, and discuss its various parts. 12  
(b) Draw a layout sketch of a Diamond crossing. 8

4. (a) Describe Absolute Block System for controlling the movement of Trains. 10  
(b) Discuss the objects of Signalling. Also explain the classification of Signals as per their functions. 10

### UNIT-III

5. Discuss briefly the following :
  - (a) Grade compensation and Maximum speed on Curves. 10
  - (b) Hauling capacity of a locomotive. 10
6. (a) Discuss briefly as to how the Railway Stations are classified ? 10  
(b) What are Station yards ? Explain with sketches Marshalling yards and Loco yards. 10

### UNIT-IV

7. Discuss the various Aircraft characteristics and their effects on the elements of an Airport. 20
8. (a) Discuss the various Runway Patterns with sketches. 10  
(b) What is Wind Rose Diagram ? How is a runway oriented using a Wind rose diagram showing direction and intensity of wind only ? 10

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