

Roll No. ....

Total Pages : 3

**BT-8/M-20**

**38043**

**RAILWAY AND AIRPORT ENGINEERING**

Paper–CE-404-E

Time Allowed : 3 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 the various types of Rail sections with sketches. Also discuss their mutual advantages and disadvantages. 10
- (b) Discuss the following :
  - (i) Advantage of Long Welded rails.
  - (ii) Various defects in rails. 10
2. What do you understand by Creep in Rails? Discuss its various causes and remedial measures. 20

**UNIT-II**

3. (a) Discuss the various types of switches with sketches. 10

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- (b) What do you understand by Heel divergence, Switch angle and Throw of a Switch? 10
4. (a) How can signals classified leased on their location? Discuss the various Reception signals and Departure signals. 10
- (b) Explain Automatic Block system method of controlling Train movement. 10

### UNIT-III

5. (a) Where is Super-elevation provided on Railways? How is it calculated? What is Cant Deficiency? 12
- (b) Write a short note on Hauling capacity of a locomotive. 8
6. What are Station Yards? Describe Marshalling Yards and Loco Yards with sketches. 20

### UNIT-IV

7. (a) Describe the various factors, which should be kept in mind, while selecting the site of an Airport. 15
- (b) Write a short note on classification of Airports. 5

8. (a) What do you understand by Basic Runway Length? How is Basic Runway length determined from the performance characteristics of the Aircraft using the Airport? 12
- (b) Discuss the differences between Highway and Runway Pavement affecting their design. 8