

Roll No. ....

Total Pages : 03

**BT-8/D-18                      38043**  
**RAILWAY AND AIRPORT**  
**ENGINEERING**  
**CE-404E**

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit.

**Unit I**

1. Describe the following with sketches :
  - (a) Various types of Rail Sections and requirements of an ideal Rail Section. 10
  - (b) Coning of Wheels and its utility. 10
2. (a) Describe Wooden sleepers. Discuss their advantages and disadvantages. What do you understand by Sleeper Density ? 10  
(b) Explain the various types of Fish Plates and Spikes, used on Indian Railways with sketches. 10

**Unit II**

3. (a) Describe the various types of switches used on Railways with sketches. 10  
(b) Differentiate between a Turn Table and a Triangle. 10
4. (a) Classify the various signals as per their function. Discuss briefly. 10  
(b) List the various methods of controlling movement of trains. Explain Absolute Block System. 10

**Unit III**

5. (a) Explain cant deficiency, negative super-elevation and maximum permissible speed on curves. 10  
(b) Define : Trace capacity and discuss the measures for increasing the same. 10
6. Give the functional treatment of a Railway Station and with neat sketches, explain :
  - (a) A way side station on a double line.
  - (b) A Terminal Station. 20

**Unit IV**

7. Discuss the various factors, which should be kept in mind, while selecting the site of an Airport. **20**
8. Describe the following :
- (a) Various Runway Patterns **10**
  - (b) Basic Runway length and the various corrections which are made to Basic Runway length to arrive at the actual Runway length at a site. **10**

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