

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]  
(2068)

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**B. Tech 6th Semester Examination**  
**Transportation Engineering-II (CBS)**  
**CE-602**

**Time : 3 Hours**

**Max. Marks : 60**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt only one question from each unit. Question no. 9 is compulsory to attempt.

**UNIT - I**

1. Explain all types of rail failures with the help of diagrams. (10)
2. Draw a typical cross section of permanent way. Discuss in detail the functions of various components of a railway track. (10)

**UNIT - II**

3. What do you understand by gradient? Why gradient is provided in railways? Discuss all the types of gradients giving their permissible values adopted on Indian Railways. (10)
4. Write down the classification of all types of signals. Explain the working principle of semaphore signal. (10)

**UNIT - III**

5. What is terminal building? List various passenger facilities and services of airport. Discuss various types of parking of aircraft. (10)

6. What do you understand by ATC? What is need of ATC at airport? Explain the types and importance of airport markings. (10)

**UNIT - IV**

7. Discuss the role of ITS in advancement of transportation. Explain the objective and benefits of it. (10)
8. What are the locations at which rigid, composite and flexible pavements used at airports? What are the characteristics of these pavements ? (10)

**UNIT - V**

9. Write a short note on following—

- (i) Types of gauges.
- (ii) Locomotives.
- (iii) Capacity of track
- (iv) Cant deficiency
- (v) F.F. Rails
- (vi) Square Crossing
- (vii) A Scissors Cross Over.
- (viii) Terminal Area.
- (ix) Clear zone.
- (x) Hanger

(2×10=20)