

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Seventh Semester

Civil Engineering

CE8702 - RAILWAYS, AIRPORTS, DOCKS AND HARBOUR ENGINEERING

(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---------------------------------------------------------------------------|-------------------------------|
| 1. Classify the types of gradient in railways. | 2,K1,CO2 |
| 2. Define super elevation in railways. | 2,K1,CO2 |
| 3. Classify the methods used for stabilization of tracks in poor soil. | 2,K2,CO3 |
| 4. Compare stop signal and warner signal. | 2,K2,CO3 |
| 5. What is a hangar and mention its types? | 2,K1,CO4 |
| 6. Classify airport codes based on aircraft wheel load. | 2,K2,CO4 |
| 7. List the elements to be considered in the Geometric design of runways. | 2,K1,CO5 |
| 8. Illustrate the cross wind component. | 2,K2,CO5 |
| 9. Mention some of the features of a harbour. | 2,K1,CO6 |
| 10. List any two erosion protection methods in Coastal Zone. | 2,K1,CO6 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Explain with neat sketches any four obligatory points controlling the railway alignment. 13,K2,CO2
- OR**
- b) Illustrate the types of level crossings with neat sketches. 13,K2,CO2
12. a) Illustrate the operational and functional characteristic of signals in railways. 13,K2,CO3
- OR**
- b) Explain the various types of railway yard in detail. 13,K2,CO3
13. a) Outline a typical airport layout. Show the locations of its components and explain them in detail. 13,K2,CO4

OR

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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b) What is a master plan? Explain the recommendation by ICAO & FAA master plan in detail. 13,K1,CO4

14. a) What are the items to be considered in the geometric design of runway and explain it in detail? 13,K1,CO5

OR

b) Develop Type II windrose diagram in detail with neat sketch. 13,K3,CO5

15. a) i) Illustrate the factors to be considered while selecting a suitable site for the construction of a port. 6,K2,CO6

ii) Compare Pier and Wharf. Explain their utility with the help of sketches. 7,K2,CO6

OR

b) Classify different types of break water. Explain any one in brief. 13,K2,CO6

PART - C (1 × 15 = 15 Marks)

16. a) Explain the various rail fixtures and fastenings in permanent way with neat sketch. 15,K2,CO1

OR

b) Illustrate the various theories of creep in railways with suitable diagram. 15,K2,CO1