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R-15

Code: 5G676

IV B.Tech. I Semester Supplementary Examinations Nov/Dec 2022

Railway Docks and Harbor Engineering

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five full questions by choosing one question from each unit (5x14 = 70 Marks)

UNIT-I

1. a) Explain the functions of rails in a permanent way? Discuss the requirements of good rails to satisfy the expected functions?
b) Define "Creep of Rails". What are the theories proposed for causes of creep?

OR

2. a) Discuss about the types of gradients used in railway alignment.
b) A 6° branch line takes off from a 3° main line in the layout of a BG yard. If the speed on the branch line is limited to 38 kmph, determine the speed restriction on main line. Take cant deficiency permitted as 7.62 cm.

UNIT-II

3. a) Describe the factors that influence the selection of site for a Railway station.
b) Explain briefly on:
i. Catch-sidings ii. Classification of railway stations

OR

4. Explain the necessity of railway tunnels? Draw a sketch to illustrate a single track railway tunnel.

UNIT-III

5. Describe the following in detail
i. Greek harbours
ii. Roman harbours
iii. Historical development of Bombay Port

OR

6. Discuss the factors to be considered in the design and construction of Dock walls?

UNIT-IV

7. a) Define jetty? List out different types of jetties and explain types of jetties with neat sketches
b) Discuss about the importance of Landing stages and wharves in Docks and harbours.

OR

8. Discuss the following in short notes;
i. Dolphins ii. Pier iii. Fenders iv. Tetrapad

UNIT-V

9. Describe the types of dredgers used in dredging operation? Explain their features?

OR

10. Describe the features of Mechanical dredgers and Hydraulic dredgers used in dredging operation.
