

R09

Code: 9A01707

B.Tech IV Year I Semester (R09) Supplementary Examinations June 2017

RAILWAYS, DOCKS & HARBOR ENGINEERING

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 (a) What functions are required to serve as sleepers?
(b) Draw a cross-section of permanent way with neat sketch and explain their components.
(c) Define creep. What are the possible causes for creep of rails?
- 2 (a) Write short notes on: (i) Super elevation. (ii) Negative cant.
(b) Find the speed for which super elevation is to be maintained if 15 trains, 10 trains, 5 trains and 2 trains are running at speed of 50 kmph, 60 kmph, 70 kmph and 80 kmph respectively.
- 3 (a) What are the requirements of a passenger platform?
(b) Describe various types of marshalling yards.
- 4 (a) Define a tunnel and describe various methods adopted for tunneling in hard ground.
(b) What is mucking and how is it carried out.
- 5 (a) Explain with neat sketches the classification of harbors.
(b) List out the appurtenances of a harbor.
- 6 What are the different types of break waters? Explain with a sketch the vertical type break water.
- 7 (a) Explain the functions and show the position of jetty and docks in a harbor.
(b) Distinguish between a jetty and wharf.
- 8 (a) What are the types of dredges? Explain the function of hydraulic dredger.
(b) Give a note on maintenance of lock gates and caissons.
