

QUESTIONNAIRE

1. Describe various functions of rail.
2. Give the details of various standard rail section being used on Indian Railways for B.G. and describe the rolling mark of Rails.
3. What are various type of rail joints which are provided on Indian Railway? Give details of supported rail joints and suspended rail joints.
4. Describe briefly the composition of rail steel. Give briefly the purpose of various elements of rail steels.
5. What do you understand by creep of rails? Discuss various causes of creep of rails.
6. Discuss various methods of prevention of creep.
7. Write short notes on (i) Flat footed rails; (ii) Staggered rail joints; (iii) Square rail joints.
8. What are the main function of sleepers? Describe briefly the requirements of an ideal sleeper.
9. What are the prohibited locations for laying of concrete sleepers? Describe briefly salient features of maintenance of concrete sleeper.
10. What is the function of fish plates? Draw sketch of fish plate giving various elements of the same.
11. What is the difference between ordinary fish plate and combination fish plate?
12. Write note on (i) Insulated rail joint, (ii) Glued Joint.
13. What are the main features of concrete sleeper? What are the main functions of elastic fastening?
14. Describe the main function of ballast. How do you assess the ballast requirements? Draw a dimensioned sketch of cross section of ballast.
15. Give in detail the ballast specifications being adopted on Indian Railway. Write short notes on (i) sub-ballast; (ii) oversize ballast; (iii) stack measurement; (iv) wagon measurement.
16. What is the main objective of formation? Describe various aspect of designing a sub-grade.
17. Discuss briefly main aspects of design of cross section of formation. Draw a cross section of formation for B.G. single line section.
18. Write short notes on (i) Top width of formation; (ii) side drains & catch water drains; (iii) slip formation for B.G.
19. Describe the important features of construction of embankments.
20. Write short notes on the following: (i) Glued joints; (ii) Ballast caking; (iii) Types of slope failures. (iv) Function of ballast; (v) rail section.
21. (a) What is creep in the railway track? (b) How does creep affect the track?
(c) Describe the various methods adopted to prevent the creep.
22. (a) What are the functions of sleepers in the track (b) How density and spacing of sleepers defined?
23. (a) What are the ballast specifications? Name the test done for checking the physical properties of ballast, sampling and sample-size for acceptance of ballast.
(b) Draw a sketch of standard ballast profile for a BG single line track for LWR/CWR Section, Indicate dimensions of width of formation length of sleepers, gauge, ballast cushion & slope and the formation slope at top and sides.
24. What are the advantage and disadvantages of Concrete sleepers?

BIBLIOGRAPHY

1. Indian Railway Permanent Way Manual (IRPWM).
2. Track Manual of Indian Railways.
3. Technical Literature issued by R.D.S.O.
4. Engineering Code issued by Railway Board.