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**5th Sem / Civil, Constr, Mgmt, Civil Engg
(Spl Highway Engg)**
Subject:- Railways, Bridges and Tunnels

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The first train was run in India between Bombay and Thane on

- a) 1860
- b) 1900
- c) 1853
- d) 1904

Q.2 The function of Rail is to provide _____ path

- a) Semi-Rigid
- b) flexible
- c) Rigid
- d) Superior

Q.3 Dog spike is _____ shaped in Section

- a) Round
- b) Square
- c) Rectangle
- d) Triangle

Q.4 A well maintained track reduce chances of _____

- a) Buckling
- b) Square
- c) Derailment
- d) None of the above

Q.5 The point of meeting of wing rail and Splice rail is called

- a) Acute crossing
- b) Control
- c) Nose Crossing
- d) CTC System

Q.6 Culvert span is usually less than _____ m

- a) 15 m
- b) 50m
- c) 20 m
- d) 6m

Q.7 What is provided to support cutting Edge

- a) Curb
- b) Both A and B
- c) Repair
- d) None of the above

Q.8 Sliding plate is simplest type of _____

- a) Contraction
- b) Thermal
- c) Expansion
- d) None of the above

Q.9 Foundation is _____ part of bridge Sub Structure

- a) Upper most
- b) Middle most
- c) Lower most
- d) None of the above

Q.10 Open foundation are suitable for bridge of _____ height

- a) High
- b) None of the above
- c) Low
- d) Moderate

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 In which part abutments are provided in bridge _____

Q.12 Repair and maintenance fall under _____

Q.13 The bearing which allows longitudinal Expansion of bridge girder is called _____

Q.14 In a bridge _____ is provided adjacent to abutments

Q.15 Main function of bridge foundation is to _____

Q.16 Double-headed rails are known as _____

Q.17 Bull headed rails fail due _____ of rails

Q.18 Adzing of sleeper is done at the slope of _____

Q.19 Distance between rails for broad gauge is _____

Q.20 Full face method used for _____ soils

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Write the various functions of the railway

Q.22 Write the advantages and disadvantages of flat-footed rails

Q.23 Explain single slip and cross-overs

Q.24 Classify the tunnel according to soil type and location

Q.25 Name different methods of tunneling and purpose of lining in the tunnel

Q.26 What are the requirements and function of fish plates

Q.27 Define wing walls and their functions

Q.28 Define piers and name different types of pier and explain them briefly

Q.29 What is bearing? Explain different types of bearing used for the bridge.

Q.30 Write types of maintenance and Explain them briefly.

Q.31 Define the permanent drainage system in a tunnel along with a diagram

Q.32 Give advantages and disadvantages of bull headed rails

Q.33 Write factors affecting the route for railways and explain in detail

Q.34 What are the advantages of welding of rails and explain arc welding.

Q.35 What is the necessity of point of crossing?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What are the requirements of ideal sleepers? Give advantages and disadvantages of concrete sleepers.

Q.37 Explain the necessity of constructing the temporary bridge. What are the advantage and disadvantage of temporary bridge.

Q.38 What are various type of investigation done before starting the tunnel work. Explain them in briefly