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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

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- 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

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