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Roll No.

**6th Sem / Branch : Civil Engineering/Constr. Mgmt.
Civil Engg (Spl. Highway Engg.)
Sub. : Railways, Bridges & Tunnels**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 The formation width for a railway track depends on the _____ (CO3)
- i) Type of gauge
 - ii) Number of tracks to be laid side by side
- a) Only (i) b) Only (ii)
c) Both (i) and (ii) d) None of these
- Q.2 The rail is designated by _____. (CO5)
- a) Weight
 - b) Length
 - c) Weight per unit length
 - d) Cross-section
- Q.3 _____ are provided in the bridges to allow free movement of the girder without any difficulty. (CO17)
- a) Bearings
 - b) Piers
 - c) Foundations
 - d) End supports
- Q.4 The end supports of the super structure of a bridge are known as _____. (CO16)
- a) Piers
 - b) Abutments

- c) Foundation
d) None of these
- Q.5 The span for which, total cost of the bridge structure in minimum is called _____. (CO13)
a) Clear span b) Clearance
c) Economic span d) All of these
- Q.6 The most suitable soil used for compressed air tunneling is _____. (CO19)
a) Silt b) Clay
c) Sand d) Gravel
- Q.7 Ribs are used for strengthening and stiffening the liner plate for tunnels of diameter greater than _____. (CO20)
a) 2 m b) 4 m
c) 3 m d) 5 m
- Q.8 The suitable tunneling method used for laying under ground sewer is? (CO22)
a) Army method
b) Needle beam method
c) Italian method
d) German method
- Q.9 The permanent drainage in a tunnel system is affected by _____. (CO22)
a) Nature of tunnel b) Type of soil
c) Type of lining d) All of these
- Q.10 A minimum illumination of _____ should be provided at the tunnel and shaft heading during drilling, mucking and sealing. (CO23)
a) 50 lux b) 75 lux
c) 100 lux d) 125 lux

SECTION-B

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

- Q.11 The railway provided over the ground surface are known as _____. (CO1)
- Q.12 The way of placing rails to an inward slope of 1 in 20 is termed as _____. (CO5)
- Q.13 The end point of wing rail with lead rail is known as _____. (CO9)
- Q.14 _____ is the frictional resistance of the surrounding soil on the outer surface of steining of wells. (CO15)
- Q.15 The bearings of _____ is to be coated with oil from time to time. (CO18)
- Q.16 Drift method of tunneling is used to construct tunnels in _____. (CO19)
- Q.17 _____ section of tunnel is not suitable for placement of concrete lining. (CO20)
- Q.18 _____ is the operation of loading the rock, earth and any other excavated material? (CO20)
- Q.19 Orange lights are usually found at the beginning of the tunnel, called the _____. (CO23)
- Q.20 The art to keep the tunnels free from water during and after the construction operations is called _____. (CO22)

SECTION-C

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

- Q.21 What are the factors which affect the rail route? (CO2)
- Q.22 Name the different types of rail gauges used in our country. Explain any one of them. (CO4)
- Q.23 What are the advantages of bearing plates? (CO6)
- Q.24 Write any five function of ballast. (CO8)

- Q.25 What is the necessity of points and crossings on railways. (CO9)
- Q.26 Why maintenance of railways track is necessary. (CO10)
- Q.27 Write a short note on "Requirements of Drainage system" in railway tracks. (CO11)
- Q.28 What is the difference between bridge and culvert? (Co13)
- Q.29 Write the advantages of RUB. (CO14)
- Q.30 Enlist the various criteria used for the classification of bridges. (CO14)
- Q.31 What are the problems arise during the sinking of well foundations? (CO15)
- Q.32 Write down the functions of wing walls provided in a bridge. (CO16)
- Q.33 Describe the working of elastomeric bearings. (CO17)
- Q.34 Write a short note on routine maintenance of bridges. (Co18)
- Q.35 Write down the functions of a station in railways. (CO12)

SECTION-D

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

- Q.36 Explain with the help of a diagram the working of RCC sleepers and also write their advantages and disadvantages. (CO7)
- Q.37 What are the factors which affect the site selection of a bridge? Explain any two of them in detail. (CO14)
- Q.38 a) Explain the working of abutments with return wing walls. (CO16)
- b) Write a short note on ventilation by exhaust. (CO21)