

Roll no. _____

ID: 180753/030753/743

Semester: 5th

Branch: Civil, Constr. Mgmt., Civil Engg (Spl Highway Engg)

Subject Name: Railways, Bridges and Tunnels

Time Allowed: 3 Hrs.

MM:100

Section –A

Note: Multiple Choice questions. All questions are compulsory.

10x1=10

- Q.1 The clear gauge distance of two rails of broad gauge are (CO_4)
- A. 1767 mm
 - B. 1676 mm
 - C. 1777 mm
 - D. 1666 mm
- Q.2 A circular curve consisting of two reverse curves with or without a straight length in between is known as (CO_5)
- A. Reverse curve
 - B. Deviation curve
 - C. Transition curve
 - D. Vertical curve
- Q.3 The bridge constructed when a road crosses another road at different levels (CO_14)
- A. Grade separator
 - B. Major Bridge
 - C. Minor Bridge
 - D. Viaduct
- Q.4 The bridge constructed across a deep valley without perennial water (CO_14)
- A. under Bridge
 - B. Culvert
 - C. Vent –Way
 - D. Viaduct
- Q.5 Which one of the following is not a sub-structure of a bridge (CO_15)
- A. Flooring
 - B. Abutment
 - C. Wing walls
 - D. Piers
- Q.6 In which Bridges, flooring is constructed on the middle of super-structure. (CO_14)
- A. Deck Bridge
 - B. Through Bridge
 - C. Arch Bridge
 - D. Semi-through Bridge
- Q.7 The end supports of a bridges super-structure are (CO_16)
- A. Abutments
 - B. Piers
 - C. Columns
 - D. Foundations
- Q.8 The device allow free expansion, contraction and deflection of super structure of bridge is (CO_17)
- A. Foundations
 - B. Bearings
 - C. Columns
 - D. Piers
- Q.9 Which tunnel section is commonly used in traffic tunnel, subways or navigation tunnels (CO_20)
- A. Horse -shoe shape
 - B. D-Shape

- C. Egg - Shaped
D. Elliptical Shape
- Q.10 Which method is commonly used for drainage of tunnel carrying double railway track or two lane road. (CO_22)
- A. Open Drain
B. Side Drain
C. Central Drain
D. Temporary Drain

Section-B

Note: Objective type questions. All questions are compulsory.

10x1=10

- Q.11 Define preliminary survey. (CO_02)
Q.12 Define coning of wheels. (CO_05)
Q.13 _____ of rails is occur due to longitudinal movement of rails with respect to sleepers. (CO_05)
Q.14 _____ is the rise of water level due to, obstruction by the bridge in the flow of water. (CO_14)
Q.15 Cause way allows flood water to pass _____ it. (CO_14)
Q.16 Define deck Bridges. (CO_14)
Q.17 Define rocker roller bearing. (CO_17)
Q.18 Define term mucking. (CO_21)
Q.19 Describe blowing method of ventilation of tunnels. (CO_21)
Q.20 Define lighting of tunnels. (CO_23)

Section –C

Note: Short answer type Questions. Attempt any twelve questions out of fifteen questions.

12x5=60

- Q.21 Write five merits and demerits of railways over roadways. (CO_1)
Q.22 Explain various types of failure of rails. (CO_5)
Q.23 What is ballast? What are the requirements of good ballast? (CO_8)
Q.24 Write a short note on Cast iron sleeper. (CO_7)
Q.25 Write note on maintenance of level crossing. (CO_10)
Q.26 Explain points and crossings along with its importance. (CO_9)
Q.27 Differentiate between right and left turn out. (CO_6)
Q.28 Write short note on expansion joints? Why these are provided? (CO_6)
Q.29 Explain deck, through and semi through bridges. (CO_14)
Q.30 Write the problems arises during the sinking of well foundations? (CO_15)
Q.31 Discuss functions of bridge bearings? (CO_17)
Q.32 Describe routine maintenance of bridges. (CO_18)
Q.33 List the factors affecting the type of bridge to be constructed? (CO_15)
Q.34 What are the necessities of providing tunnels? (CO_19)
Q.35 Write short note on lighting of tunnels. (CO_23)

Section-D

Note: Long answer questions. Attempt any two questions out of three questions.

2x10=20

- Q.36 (a) Differentiate between double headed rails and flat footed rails. (CO_5)
(b) Explain various types of rail gauge used in India? (CO_4)
Q.37 (a) Explain buckling of rails along with remedial measures. (CO_6)
(b) Explain creep of rail and its cause of occurrence. (CO_6)
Q.38 (a) Classify bridges according to their structural form. (CO_14)
(b) Write a note on IRC classification of bridges. (CO_14)