

V-SEM./CIVIL ENGG./ 2021(W)
TH-III RAILWAY & BRIDGE ENGG.

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Differentiate between B.G and M.G.
 - b. Name different types of masonry bridge.
 - c. What do you mean by Creep of rails?
 - d. Differentiate between bridge and culvert.
 - e. What do you mean by crossing?
 - f. What do you mean by coffer Dam?
 - g. Explain equilibrium cant.
 - h. Define waterway and economic span for a bridge.
 - i. Write three functions of sleeper.
 - j. What is free board?

2. Answer **Any Six** Questions 5X6
 - a. Write down the requirement of permanent way.
 - b. What are the characteristics of an ideal bridge site?
 - c. Describe the requirement of ballast in laying of rails.
 - d. State precisely the purpose of providing bearings in bridge. Name the various types of bearings.
 - e. Explain the necessity and procedure of track maintenance.
 - f. Write short notes on shallow foundation.
 - g. Write short notes on advantages of welding rails.

3. Describe briefly the construction procedure in sinking of Wells. 10
4. Discuss the necessity of points and crossing in a railway track. Briefly describe the main components. 10
5. State the advantages of concrete sleepers and what are the functions of ballast? 10
6. What are the requirements of rail joints? Discuss different types of rail joints with the help of neat sketches and give their merits and demerits. 10
7.
 - a. Name the different components of a bridge. 10
 - b. What are the hydraulic data required for particular bridge site selection?