Ex/CON/T/321/2022

B. CONS. ENGG. 3rd YEAR 2nd SEMESTER EXAM.-2022

BRIDGE ENGINEERING

Part - I ; Full Marks: 50

Use **Separate Answer Script** for Each Part

Answer Questions **No 1** and **Any One** of the following. Relevant IRC & IS Codes are allowed. Assume any other relevant data not provided. Draw **Neat sketches** to explain your answer.

1. a) Discuss the different **Components** of a Girder type Bridge and their structural role. **10**

   b) What are the Ideal Characteristics for Selection of a **Bridge** Site? **8**

   c) Discuss **Impact Factor** and its Significance in Bridge Engineering. **6**

   d) Discuss on Selection of a **Type of Bridges.** **6**

2. Calculate the **Live Load moment** of a Two-lane Culvert due to **70R Tracked Vehicle** with following data. **20**

   i. Clear span = 6.5 m
   ii. Bearing width = 400 mm
   iii. Thickness of Deck Slab = 350 mm
   iv. Size of kerb = 800 mm X 300 mm
   v. Thickness of Wearing Coat = 60 mm
   vi. Size of Hand Rail = 75 mm X 1000 mm = 1KN/m
   vii. Value of 'α' = 2.87

OR

3. a) Discuss on Class 70R Wheeled and Class A train of vehicles as per IRC code **10**

   b) Calculate the **Dead Load moment** of the Culvert as per the details of Q2. **10**

B. E. CONSTRUCTION ENGINEERING THIRD YEAR SECOND SEMESTER-2022

PART-II

Subject: BRIDGE ENGINEERING **Time : As per guidelines** **Full Marks : 50**

No of Questions	Question	Marks
1	Explain the process of Well foundation with neat sketches step by step. River is having substantial depth of water during the construction process of well foundation	15
2	During checking the stability of well foundation as per IRC 45 : 1972 as per elastic theory there are eight steps . Explain each step with proper justification for stability analysis of well foundation.	35