Roll No.							Total No. of Pages : 02
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M.Tech.(CTM) (E-I) (Sem.-1)
BRIDGE ENGINEERING

Subject Code: CT-510 M.Code: 35223

Time: 3 Hrs. Max. Marks: 100

INSTRUCTION TO CANDIDATES:

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWENTY marks.
- 3. Use of BIS code is allowed.
- Ql. a) Differentiate between submersible and non submersible bridges. (8)
 - b) For constructing a bridge over a river, calculate the peak discharge by using the following data:

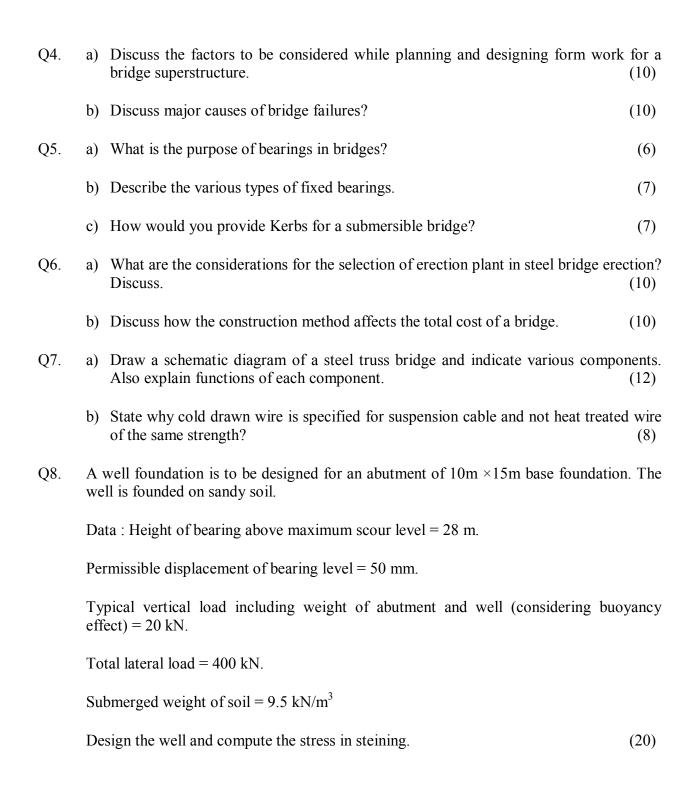
Length of reach = 1250 m, Fall = 0.34 m.

Manning coefficient n = 0.022

	Upstream	Down steam	
Flow area $m^2 \rightarrow$	3500	3200	
Wetted perimeter $m \rightarrow$	650	1.21	
Velocity head coefficient	1.17	1.21	(12)

- Q2. a) How does magnitude of afflux influences the design of a bridge? (10)
 - b) What is the need of providing vertical clearance above H.F.L.? State typical values of clearance for arch bridges. (10)
- Q3. a) Indicate the importance of soil investigations in deciding the location of a bridge?(10)
 - b) Write importance of scour depth? How is it calculated? (10)

1 M-35223 (S9)-969



NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 M-35223 (S9)-969