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M.Tech.(SE) (Sem.–1) BRIDGE ENGINEERING Subject Code : CE-502 Paper ID : [E0842]

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. Assume data if not given.

1)	a)	Describe briefly the salient features of the rational method for determination of discharge of a river at a bridge site.	flood (12)
	b)	Discuss the different ways in which bridges may be classified.	(8)
2)	a)	Enumerate the loads to be considered while designing highway bridges.	(10)
	b)	Discuss decks of various types & their advantages/disadvantages.	(10)
3)	a)	Describe the different types of bridge piers.	(10)
	b)	State how the backfill behind an abutment is to be constructed.	(10)
4)	a)	Describe the use of Pneumatic Caissons in the construction of bridge foundations	. (6)
	b)	What are the consideration in handling a precast concrete pile?	(6)
	c)	What are different types of foundations?	(8)
5)	a)	Sketch a suspension bridge and indicate its components. Briefly describe the fun and design of each component.	ction (14)
	b)	Draw a typical cable stayed bridge.	(6)
6)	a)	Discuss modern methods of construction of steel bridges.	(10)
	b)	Discuss in brief about construction aspects of foundations of bridges.	(10)
7)	a)	Discuss how failure of bridge can be avoided.	(8)
	b)	Differentiate between Routine & Indepth inspection of bridges.	(6)
	c)	What is life expectancy of a bridge?	(6)
8)	Write notes on :		
	a)	Open foundations	(10)
	b)	Rehabilitation of bridges	(10)
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