

**P - 600**

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**B.E. (Civil) (Part - IV) (Semester - VIII) Examination, April - 2016**

**DESIGN OF BRIDGES (Elective - III) (New Course)**

**Sub. Code : 49187**

Day and Date : Tuesday, 26 - 04 - 2016

Total Marks : 100

Time : 03.00 p.m. to 06.00 p.m.

- Instructions :
- 1) Attempt any two questions from each section.
  - 2) Draw neat figures.
  - 3) Assume data wherever necessary.

**SECTION - I**

- Q1)** a) Define Bridge. Explain various components of bridge with neat figure. [13]  
b) Classify bridges. Differentiate between causeway, submersible and high level bridges. [12]
- Q2)** a) Explain topographic details to be considered in the investigations in detail. [13]  
b) Explain IRC class AA loading in detail with neat sketch. [12]
- Q3)** Write a short note on (any Four): [4 × 6¼ = 25]
- a) Aesthetics of Bridge design
  - b) Impact load
  - c) Pigeaud's method
  - d) Longitudinal Forces
  - e) Methods to determine flood discharge
  - f) Secure Depth

**P.T.O.**

**SECTION - II**

- Q4)** a) Explain various types of Bridge foundations with their merits and demerits. [13]  
b) Enumerate various erection methods of deck. Explain cantilever method in detail. [12]
- Q5)** a) Explain 'Procedure for design of bridge pier and abutments. [13]  
b) Explain various types of bearing with their necessity with merits and demerits. [12]
- Q6)** a) Explain in detail procedure for inspection of Bridge superstructure and substructure. [13]  
b) Derive relation between cost of single pier and single span for economic span of bridge. [12]

