

RPSC-A.En

Main Examinations

CIVIL ENGINEERING

Mains Practice Workbook

PAPER - I

RCC & STEEL

Booklet

7

Key Features: Includes

- ☞ **Include 2, 5 & 20 Marks Practice Problems**
- ☞ **Cover RPSC-AE Latest Syllabus & Pattern**
- ☞ **Workbook are design according to RPSC Pattern**

RCC & STEEL

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— **RCC** —

REINFORCED CEMENT CONCRETE

PART - A

Note : Each questions carries **2 marks**. Answer should not exceed **15 words**.

1. What is designing and detailing of a structure.

2. What is PCC and RCC

3. Define modular ratio.

4. What is UR,OR & BAL. sections of a RC structures

— STEEL —

DESIGN OF STEEL STRUCTURES

PART - A

Note : Each questions carries **2 marks**. Answer should not exceed **15 words**.

1. Can structural steel elements fail in a brittle manner? Give an example.

2. What are the various design philosophies for designing steel structures?

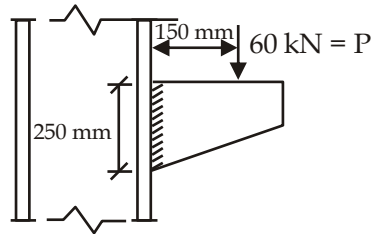
3. What are the reasons the riveted joints have lost their importance?

4. What are the maximum permissible stress in Rivet?

PART - B

Note : Each questions carries **5 marks**. Answer should not exceed **50 words**.

38. Determine the size of the fillet weld required to join a bracket plate with the flange of a column section shown in the figure below permissible stress in weld = 108 MPa.



39. Write down expression of reduction factor for large grip length, long joint and packing plate and also write down the expression of reduced shear strength of bolt

PART - C

Note : Each questions carries **20 marks**. Answer should not exceed **200 words**.

69. A welded bracket connects a plate to the column flange shown in fig. Determine the size of the weld if the allowable stress in the weld is 110 N/mm^2

