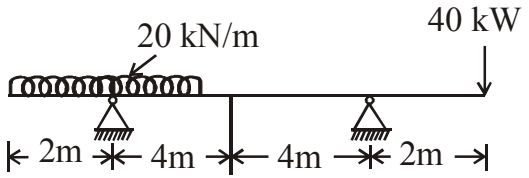
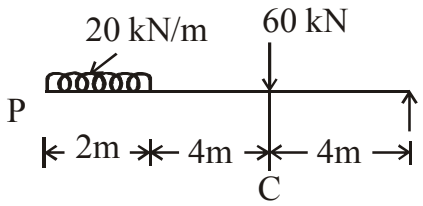
Unit III

5. Find the mean. shear force and bending moment. Also find point of contraflexural for the beam. Also draw shear force and bending moment diagram.



6. Find the deflection at point C and P for the following beam :



Unit IV

7. Define Intertia. Explain perpendicular axis theorem with suitable example.

No. of Printed Pages : 05 Roll No. .....

A-4002

B. Arch. EXAMINATION, Dec. 2018

(First Semester)

(B. Scheme) (Main & Re-appear)

(Arch)

AR105B

STRUCTURAL DESIGN-I

Time : 3 *Hours*] [*Maximum Marks :* 50

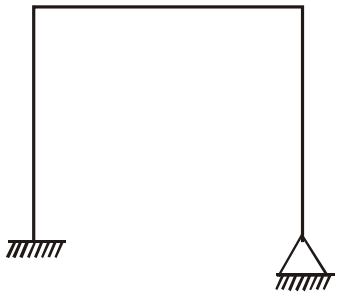
Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. Taking at least *one* from each Unit. Assume suitable data if not provided. All questions carry equal marks.

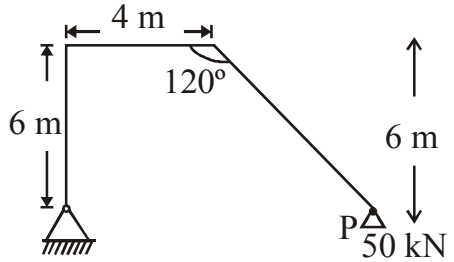
Unit I

1. (a) What is degree of Indeterminacy ? Explain condition of Static Indeterminacy.

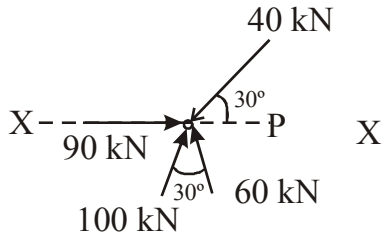
(b) Find the degree of indeterminacy of the following fig. :



2. (a) Draw free body diagram for the following fig. :

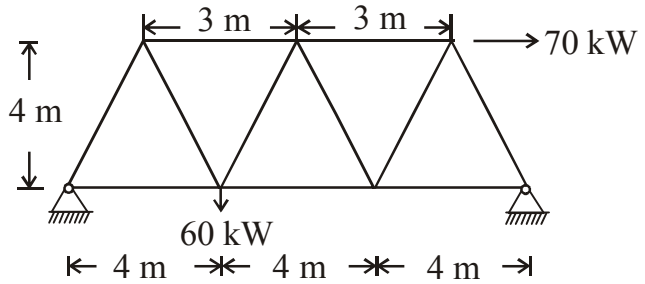


(b) Find the resultant force P and line of action from X-X axis :



Unit II

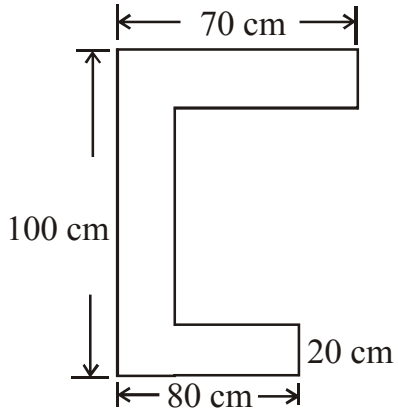
3. Find the forces in all the members of the following truss by method of joins.



4. (a) Explain various types of support condition with suitable example.

(b) Write a brief Debus IS 875 Code for design of load.

8. Find centroid and moment of Inertia of the following :



8. Find centroid and moment of Inertia of the following :