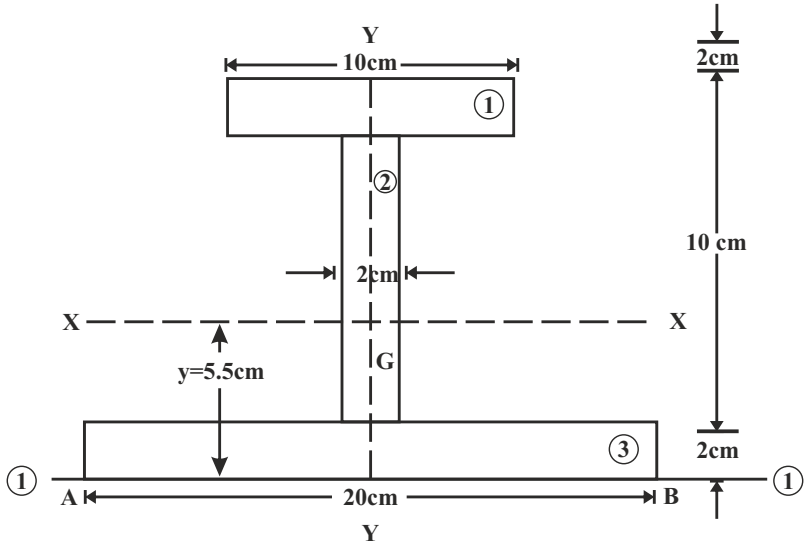
Q.24 Discuss the graphical method to find out the forces in the members.

Q25 Find the moment of inertia of the section as shows in figure about X-X axis and Y-Y passing through 'G' of the section.



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5th Sem /Architectural Assistantship
Subject : Structure Systems-I

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 A brittle material has _____.

a) No elastic zone b) No plastic zone
c) Large plastic zone d) None of above

Q.2 Neutral axis of beam is the axis

a) Of zero stress b) Of maximum stress
c) Of negative stress d) Of positive stress

Q.3 The moment of inertia of body is always minimum with respect to its?

a) Base b) Centroidal axis
c) Vertical axis d) Horizontal axis

Q.4 The bending moment at the fixed end of the cantilever is_____.

a) Minimum b) Maximum
c) WL d) WL/2

Q.5 Bulk modulus is defined as the ratio of

a) Normal & volumetric strain

b) Lateral stress and lateral strain

c) Longitudinal stress and longitudinal strain

d) All of above

Q.6 Which of the material is more elastic?

a) Rubber b) Glass

c) Steel d) Wood

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is unit of Strain?

Q.8 Define slenderness ratio?

Q.9 Define shell structure?

Q.10 Define bending moment?

Q.11 Define dead load and live load?

Q.12 Write types of beams?

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

Q.13 Explain stress - strain for mild steel diagram with neat sketch.

Q.14 What is possion's ratio and factor of safety.

Q.15 Name different types of loading in beams?

Q.16 Explain theorem of parallel axis?

Q.17 Draw a shear force diagram of uniformly distributed load W N/sqmm over the whole span on simply supported beam of length L?

Q.18 Define Hooke's law and radius of gyration?

Q.19 Define the Centre of Gravity and Centriod?

Q.20 What is uniformly distributed load and uniformly varying load.

Q.21 Name the different end support of beam.

Q.22 A mild steel rod 20mm diameter is subjected to an axial pull of 40KN.

Determine the tensile stress included in the rod and elongation if the unloaded length is 5m. Take modulus of elasticity 210 000 N/sq.mm.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)

Q.23 A cantilever beam of length 2.0 meter carries a uniformly distributed load of 1.5 KN/n over the whold length of and a point load 2.0 KN at the distance of 0.5 m from free end. Draw sheer force and bending moment diagram for cantilever.