

## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Feb 2018

B.Tech VIIIth/M.Tech 1st Semester

COURSE CODE: 12M1WCE212

MAX. MARKS:15

COURSE NAME: Design of Steel Structures

COURSE CREDITS: 4

MAX. TIME: One Hr

**Note:** (i) All questions are compulsory.

(ii) Carrying of mobile phone during examinations will be treated as case of unfair means.

(iii) IS codes and steel tables are not allowed. Sharing of items like pen, pencil, calculator etc. will be treated as unfair means. Assume necessary data.

Q1. (a). What is a plastic hinge?

(b). What is a mechanism?

(c). What is difference between plastic hinge and mechanical hinge?

(d). Define collapse load.

[4 Marks]

Q2. Find the Moment Capacity of the section shown in **figure (a)** below also find its Shape Factor. If the yield stress of the material is 250 MPa.

[5 Marks]

Q3. Find the Collapse load of the portal Frame shown in **figure (b)** below.

[6 Marks]

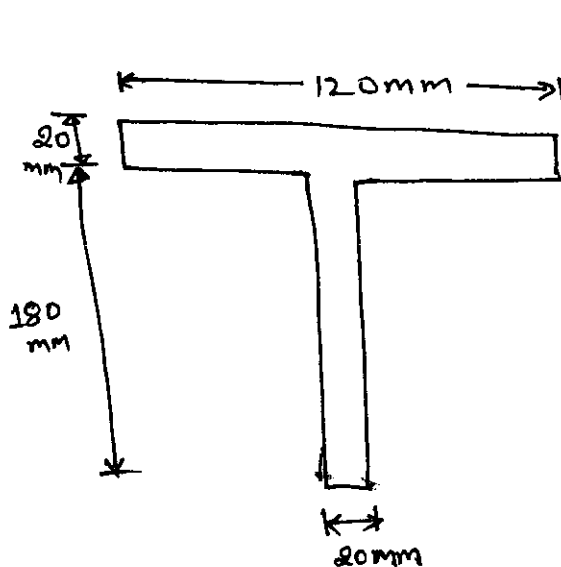


figure (a)

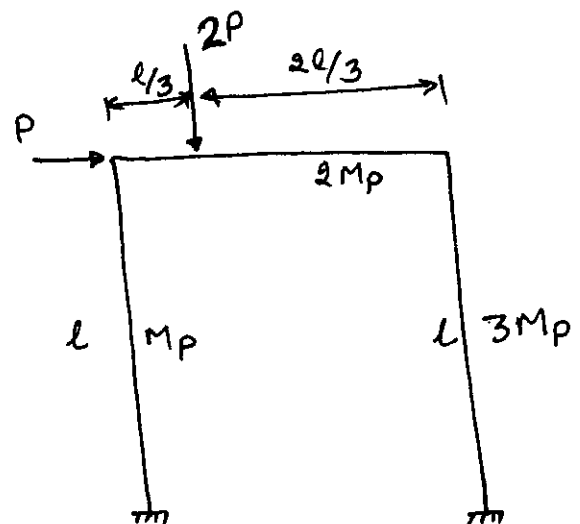


figure (b)

— The End —