

Chandra Pal

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- April-2019

B.Tech. VIth Semester

COURSE CODE: 10B11CE615

MAX. MARKS: 25

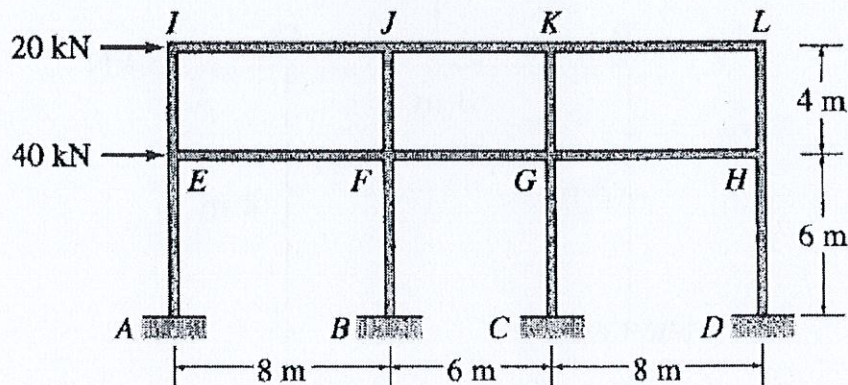
COURSE NAME: Advanced Structural Analysis

COURSE CREDITS: 04

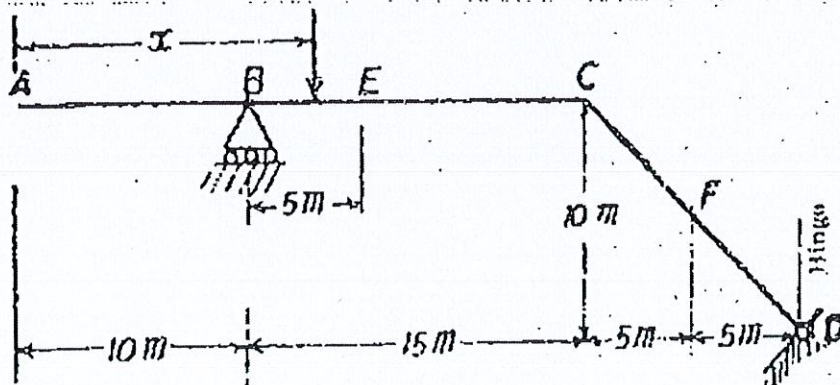
MAX. TIME: 1.5 Hours

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

- Q.1. (i)** Derive the moment carrying capacity of a beam in elastic, elastoplastic and plastic state.
(ii) A rectangular steel section of width 'b' and depth 'h' has been stressed to yield point (σ_y) up to a depth of $h/4$ from both top and bottom face under the action of moment M. Find the value of moment M. (3+2)
- Q.2.** Solve the given multistory frame by using approximate method of Analysis. (6)

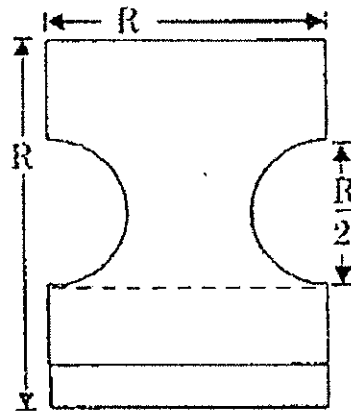


- Q.3.** For the structure shown below, draw influence line for vertical reaction at D and Shear force and bending moment at F. (4)



Q.4. Prove that the shape factor of the given section is 1.428.

(5)



Q.5 For the given portal frame ABCD, all member has same fully plastic moment M_p . Find the fully plastic moment of the frame, note that the given load system is the collapse load system.

(5)

