

C 58365

(Pages : 3)

Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2009**

CE 04 602—STRUCTURAL MECHANICS—III

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

**Part A**

- I. (a) Write a note on comparison between Static indeterminacy and Kinematic indeterminacy.  
(b) What do you know about Flexibility influence coefficient and Stiffness influence coefficient ? Explain.  
(c) Explain the equilibrium and compatibility relationship for flexibility approach and stiffness approach.  
(d) Write down the steps involved in the stiffness method of structural analysis.  
(e) Write short notes on types of coordinates.  
(f) Distinguish between flexibility method and stiffness method.  
(g) Write notes on Consistent mass and Lumped mass.  
(h) State and explain D'Alembert's principle.

(8 × 5 = 40 marks)

**Part B**

- II. (a) Analyse the continuous beam shown in Fig. 1. by flexibility method.

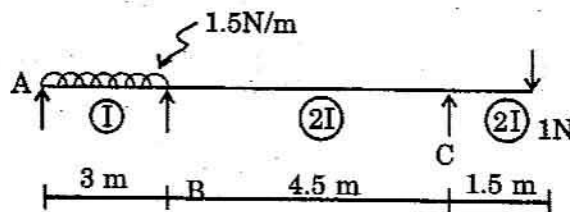


Fig. 1

Or

Turn over

- (b) Find, by the force method, the bar forces in the truss shown in Fig. 2 below.

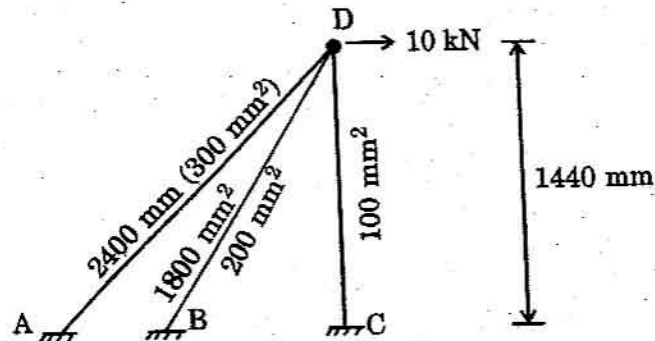


Fig. 2.

(20 marks)

- III. (a) Analyse the frame shown in Fig. 3 below by Stiffness method.

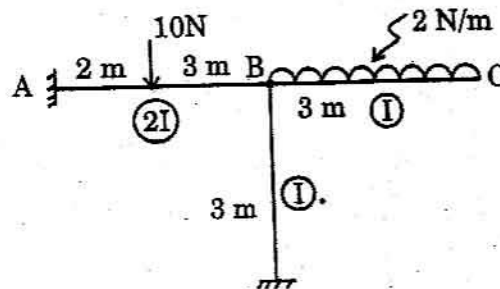


Fig. 3.

Or

- (b) Analyse the continuous beam shown in Fig. 4 below by Stiffness method.

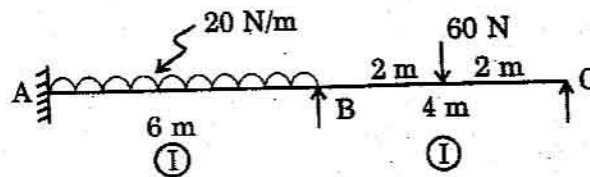


Fig. 4.

(20 marks)