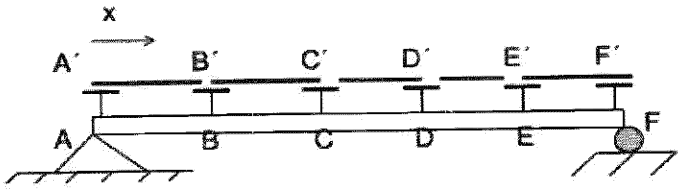

7. Draw influence line for shear force at A in the following beam. Both the spans are equal with length 5m. **20**

8. Discuss the effect of rib shortening and temperature rise on horizontal reaction of a two hinged arch. Calculate normal thrust and radial shear at a distance 10 m from left support in a three hinged parabolic arch of span 30 m and rise 6 m due to a udl covering its left half span. **20**

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B. Tech. EXAMINATION, May 2019

(Fourth Semester)

(Old Scheme) (Re-appear Only)

(CE)

CE202

STRUCTURAL ANALYSIS-I

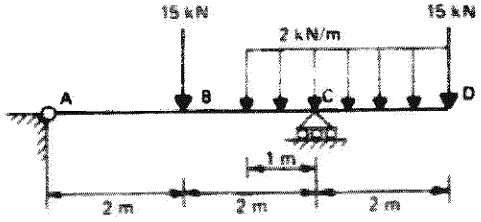
Time : 3 *Hours*] [*Maximum Marks* : 100

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.

1. (a) What do you understand by principle of superposition ? Draw free body diagram

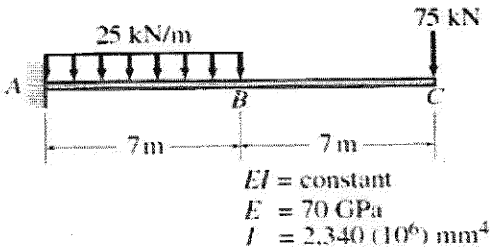
of AB and BC portion of the following overhang beam. **15**



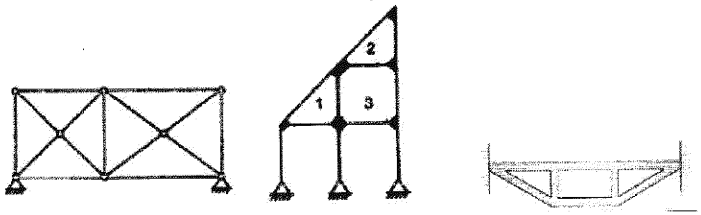
(b) Explain the conditions of stability of structures with neat sketches. **5**

2. Explain simple, complex and compound trusses giving one example of each. Explain the tension coefficient method of solving a determinate truss. **10+10**

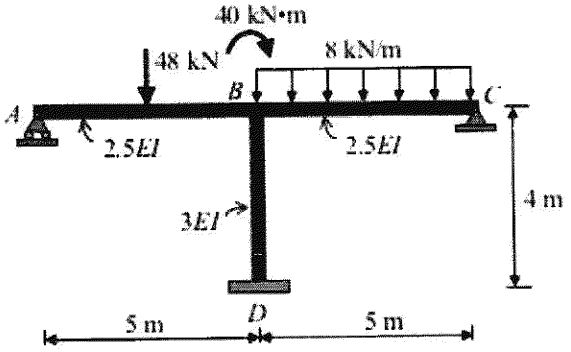
3. State and prove IInd moment area theorem. Find out slope at B and deflection at C in the beam shown below : **20**



4. Differentiate between static and kinematic indeterminacy. Find out the static and kinematic indeterminacy in the following structures : **20**



5. Analyse the following using moment distribution method and draw bending moment diagram : **20**



6. What do you understand by influence line diagram ? Draw influence line for shear in penal CD and mending moment at E, each panel is of 3 m length. **20**