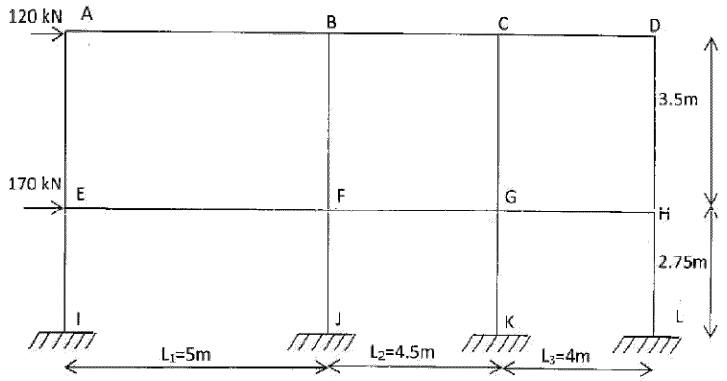
6. Analysis the frame by cantilever method assuming that all the columns have same area of cross-section. **15**



7. What do you understand by different types of supports ? Discuss different types of support with the help of the diagrams and along with reaction components. Discuss the equilibrium and stability conditions for the analysis of space structures. **15**

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E-71

B. Tech. EXAMINATION, Dec. 2018

(Fifth Semester)

(B. Scheme) (Main & Re-appear)

(CE)

CE301B

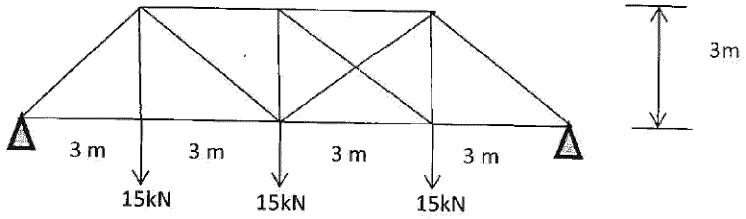
STRUCTURAL ANALYSIS-II

Time : 3 *Hours*] [*Maximum Marks* : 75

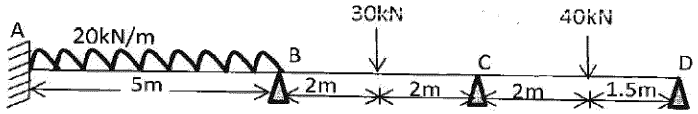
Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks. Assume any data if missing in the question paper.

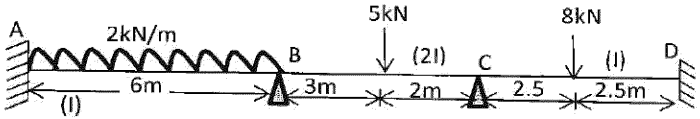
1. Determine the forces in the member of truss shown in fig. **15**



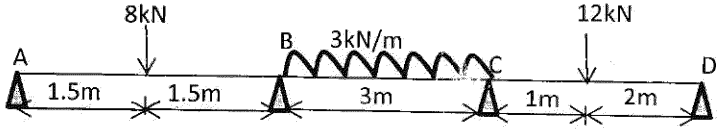
2. Determine the support moments in the continuous beam shown in fig. **15**



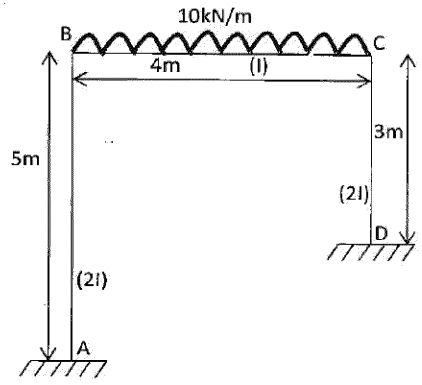
3. A continuous beam ABCD consists of three spans and is loaded as shown in fig. Ends A and D are fixed. Using the slope deflection method and determine the bending moment at the supports and plot the bending moment diagram. **15**



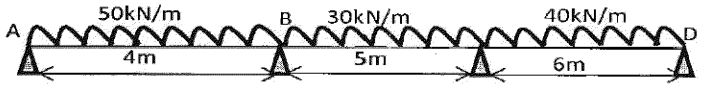
4. A horizontal beam ABCD is carried on hinged supported and is continuous over three equal spans of 3 m. All the supports are initially at the same level. The beam is loaded as shown in fig. Plot the bending moment diagram and sketch the deflected shape of the beam if the support A settles by 20 mm, B settles by 10 mm and C settles by 10 mm. The moment of inertia of the whole beam is 2.4×10^6 mm^4 and $E = 2 \times 10^5$ N/mm^2. **15**



5. Draw the bending moment diagram and sketch the deflected shape of the frame. **15**



8. A three-span continuous beam ABCD is loaded with ultimate loads as shown in fig. Determine the required plastic moment of resistance when the beam is of uniform section. **15**



8. A three-span continuous beam ABCD is loaded with ultimate loads as shown in fig. Determine the required plastic moment of resistance when the beam is of uniform section. **15**