Name in Arabic : **Lecture time :**
Number:

KING SAUD UNIVERSITY **STRUCTURAL ANALYSIS : CE 361**
COLLEGE OF ENGINEERING **SECOND SEMESTER, 1426/1427 H**
CIVIL ENGINEERING DEPARTMENT **TIME : 90 min**

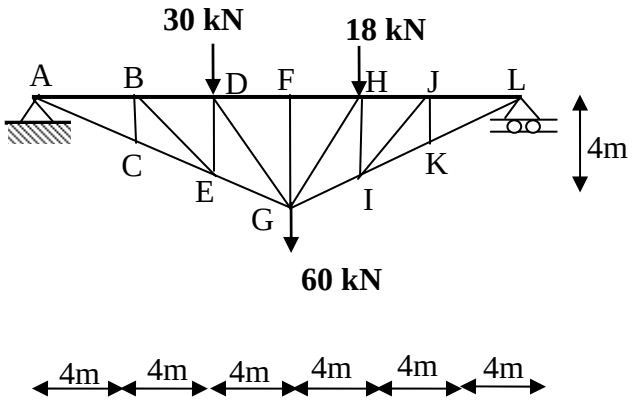
FIRST MID TERM

Note: Answer all problems in their provided space, it is recommended to use pencils for the answers

Problem 1 (10 marks)

For the shown loaded truss, it is required to;

1- Check the truss stability and determinacy.
2- Identify and mark all zero members in the truss
3- Use the method of joint to determine the force in member **AC**.
4- Use the method of sections to determine the force in member **FH**.



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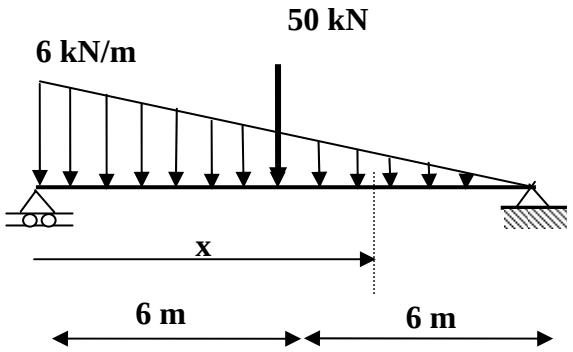
Problem 2: (10 marks)



1- For the shown loaded beam, it is required to;

a- Write the equation of shear force and bending moment at any distance **x**.

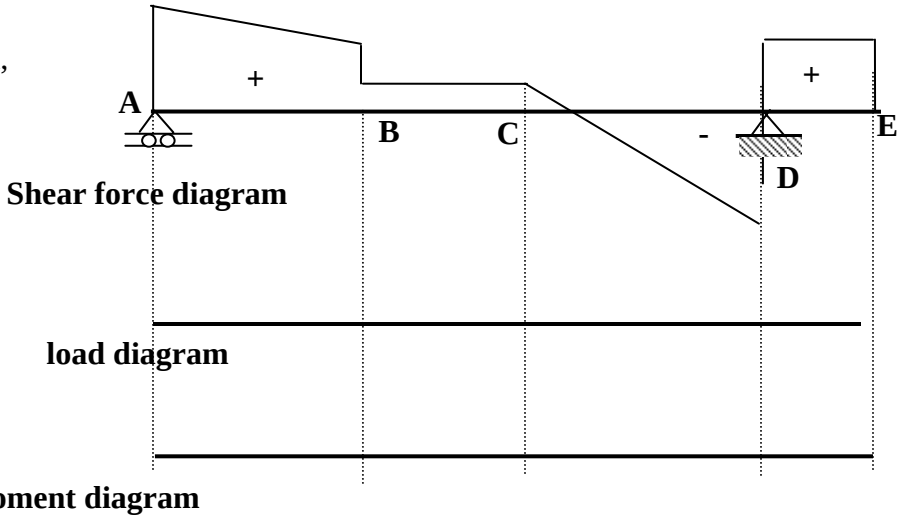
b- Use the above obtained equations to check the relation between the shear force and bending moment.

2- The shape of the shear force diagram is given, **without any values**, for a certain loaded beam. **Without any calculations**, It is required to draw neatly;

1- the shape of all loads acting on the beam.

2- The shape of bending moment diagram, given that the moment at point A = 0

3- Define the location of the maximum bending moment



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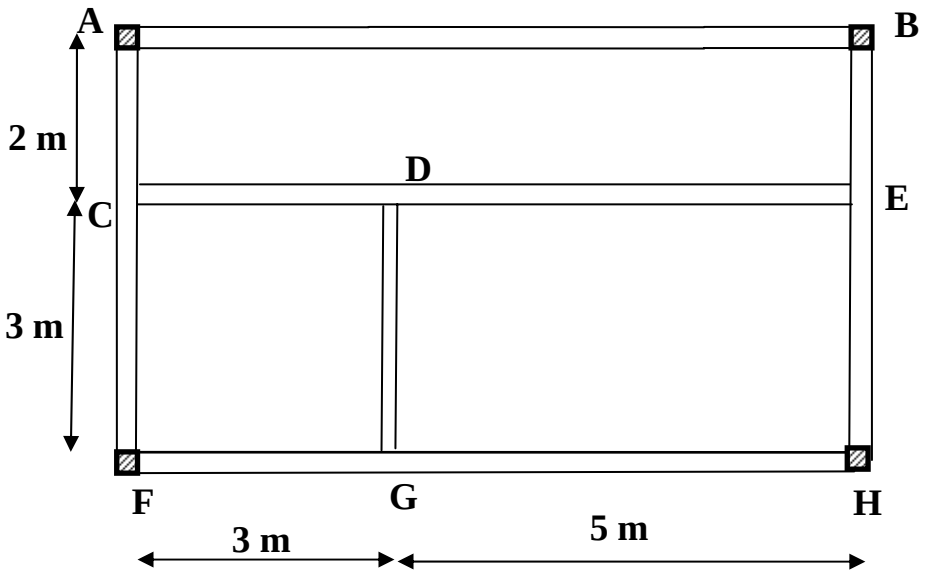
Problem 3 : (10 marks)

1- The shown floor system is subjected to a uniform load distribution equal to 20 kN/m^2. it is required to;

a- Draw neatly on the given plan, the distribution of loads on all beams.

b- Draw and calculate the load distribution and reactions for beam **GD** and beam **CDE**



2- For the shown structures, determine their stability and determinacy.