Ministry of Higher Education
Giza Higher Institute for Eng. & Tech.
Civil Engineering Department
Course Name: **Theory of Structures (1)**
Course Code : **CIV 201**

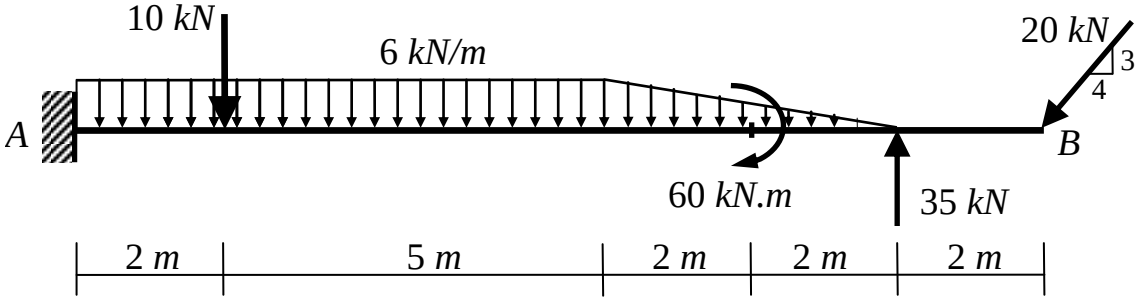
Academic Year : **2013–2014**
Semester : **First**
Level : **Second**
Time : **3 Hours**
Date : **21 / 1 / 2014**
Examiner : ***Dr. M. Abdel-Kader***

First Semester Final Examination

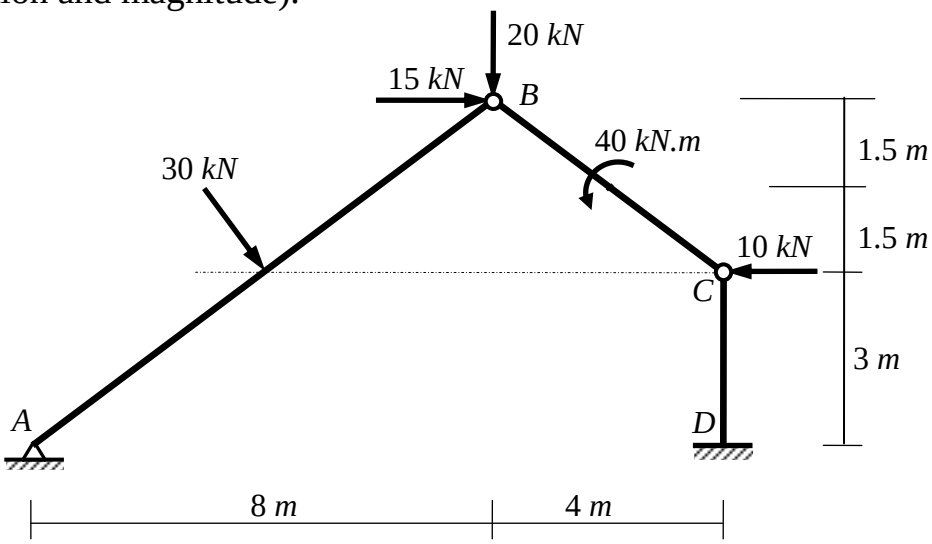
- The Exam consists of **3** questions in **2** pages.
- Maximum grade is **60 Marks**.

Question (1): (22 Marks)

(a) For the shown cantilever beam, determine the reactions at the support. Cleary indicate the final reactions (direction and magnitude).

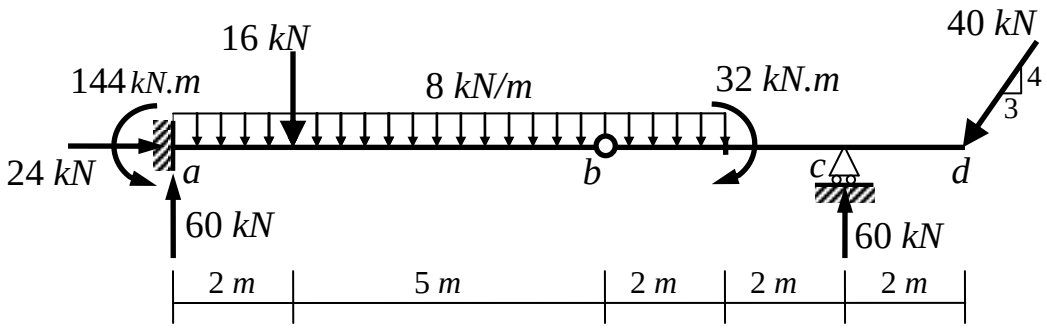


(b) For the shown frame, determine the reactions at the supports *A* and *D* **only**. Cleary indicate the final reactions (direction and magnitude).



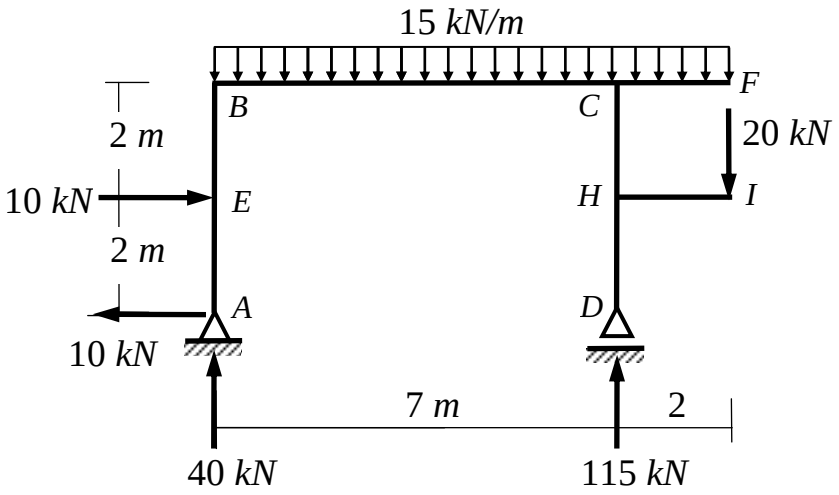
Question (2): (22 Marks)

(a) For the shown beam, draw the normal force, shear force and bending moment diagrams.
Note: The reactions are given.



Please turn over

(b) For the shown frame, draw the normal force, shear force and bending moment diagrams.
Note: The reactions are given.



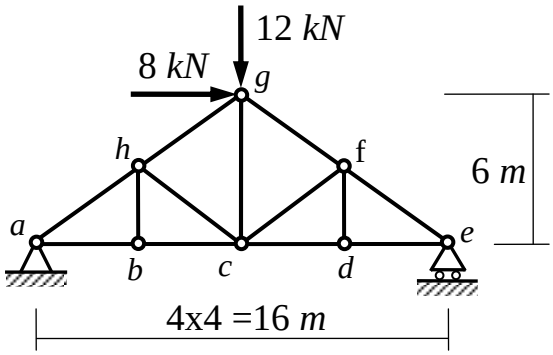
Question (3): (20 Marks)

(a) For the shown truss:

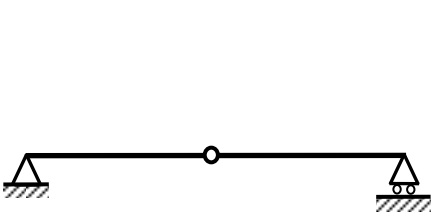
(i) Find the reactions at the supports *a* and *e*.

(ii) Determine the forces in all truss members.

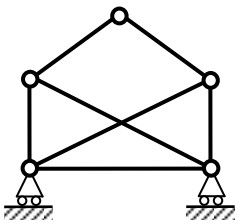
Note: Draw the truss and put the force magnitude and the indication (Tension or Compression) on each member.



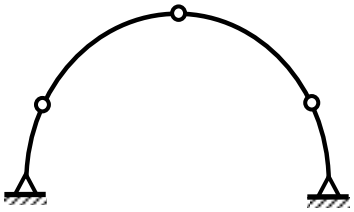
(b) Determine whether each of the shown structures is stable or unstable. If stable, determine whether it is statically determinate or indeterminate. If statically indeterminate, determine the degree of indeterminacy.



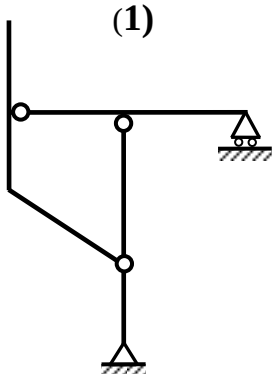
(1)



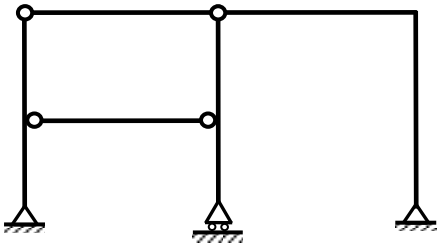
(2)



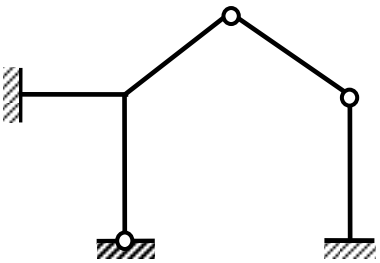
(3)



(4)



(5)



(6)

With my best wishes

Dr. M. Abdel-Kader