

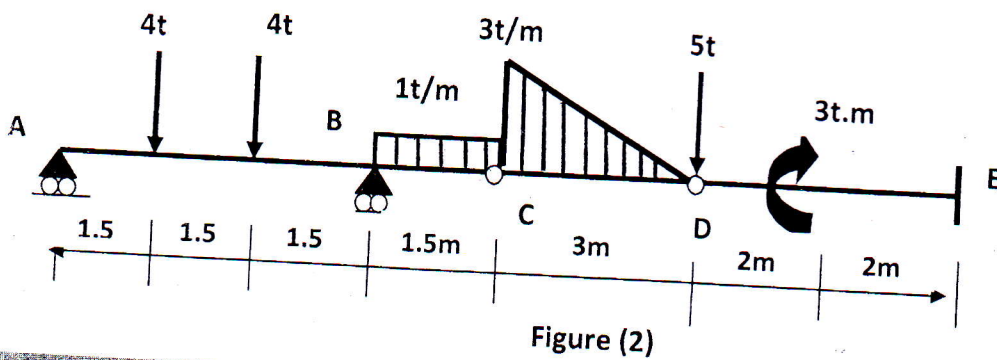
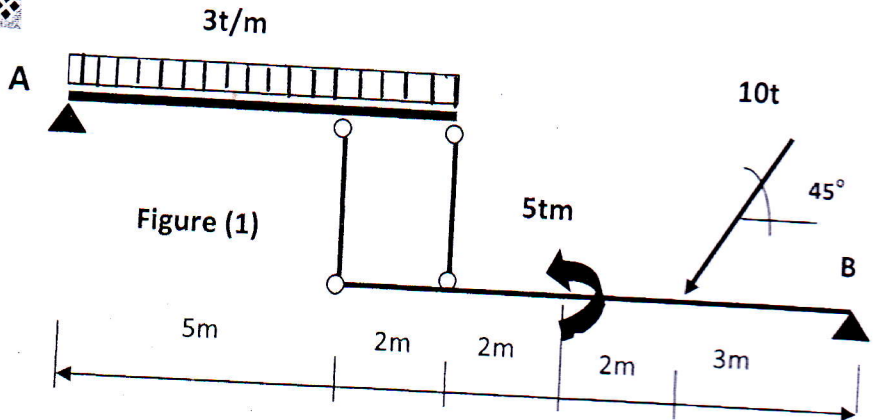
Civil Eng. DEPT.  
 Faculty of Engineering  
 Minoufiya University  
 Theory of Structures (1)  
 Final Examination  
 Date of exam : 27/5/2018

Academic Year : 2017-2018  
 Academic Term : 2nd Term  
 Academic Level : 1st Arch.  
 Time : 3 hours  
 Total Degrees : 60  
 Exam in (2) pages

**Answer All Problems ❖**

**Problem (1) [10 marks]**

Find the reactions for the structure shown in Figure (1) hinged at A and B, Then draw normal force and shearing force diagrams.

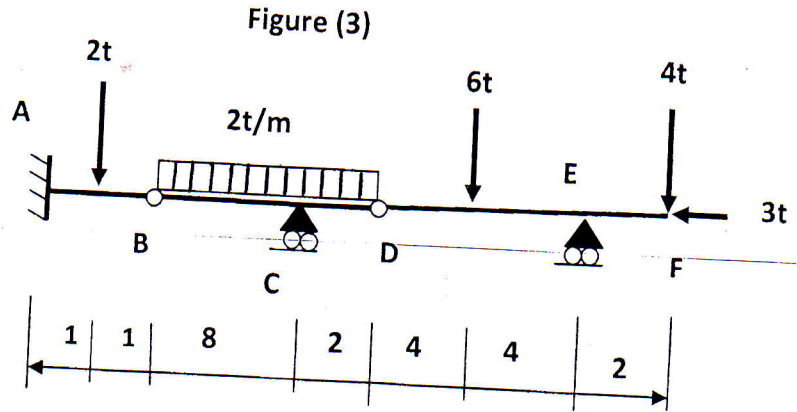


**Problem (2) [5 marks]**

The beam ABCDE with intermediate hinges at C and D as shown in Figure (2), Determine the reactions at supports A, B and E.

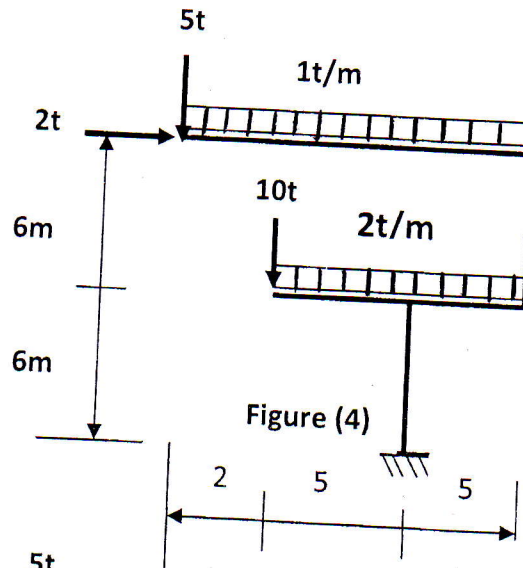
**Problem (3) [ 15 marks ]**

Draw the N.F , S.F and B.M.Ds for the given beam ABCDEF in Figure (3), with intermediate hinges at B and D.



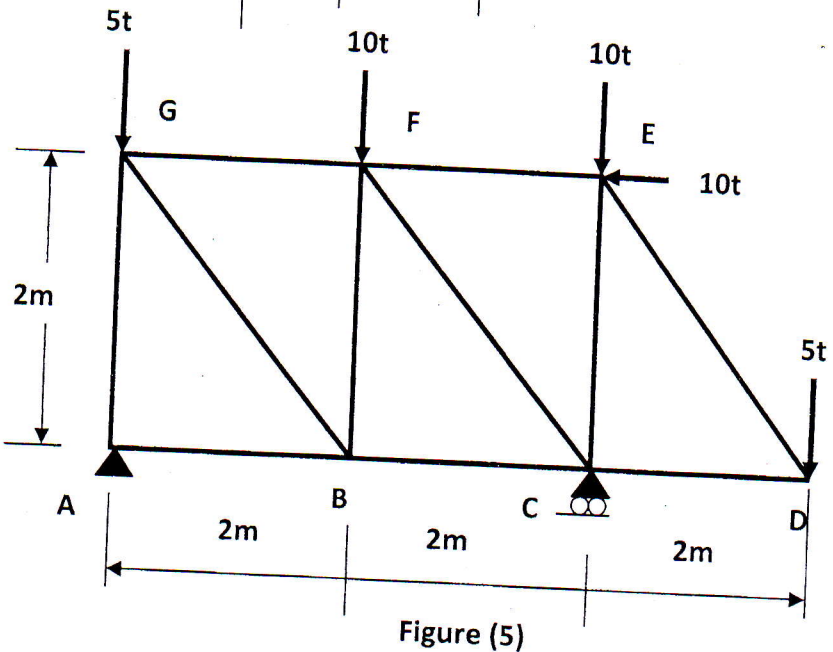
**Problem (4) [ 15 marks ]**

Draw the N.F , S.F and B.M.Ds for the given frame in Figure (4).



**Problem (5) [ 15 marks ]**

Determine the internal forces of all members of the truss shown in Figure (5) and state whether is tension or compression , check your results of members FE-FC and BC by using method of section.



With best wishes,  
**Dr- Alaa Atwa**  
**Dr- Alaa Kadeeb**