



PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Max Marks: 30

Max Time: 55 Mins

Weightage: 15 %

SET A

TEST-3

II Semester 2016-17

Course: ME A 110 Engineering Mechanics

21 April 2017

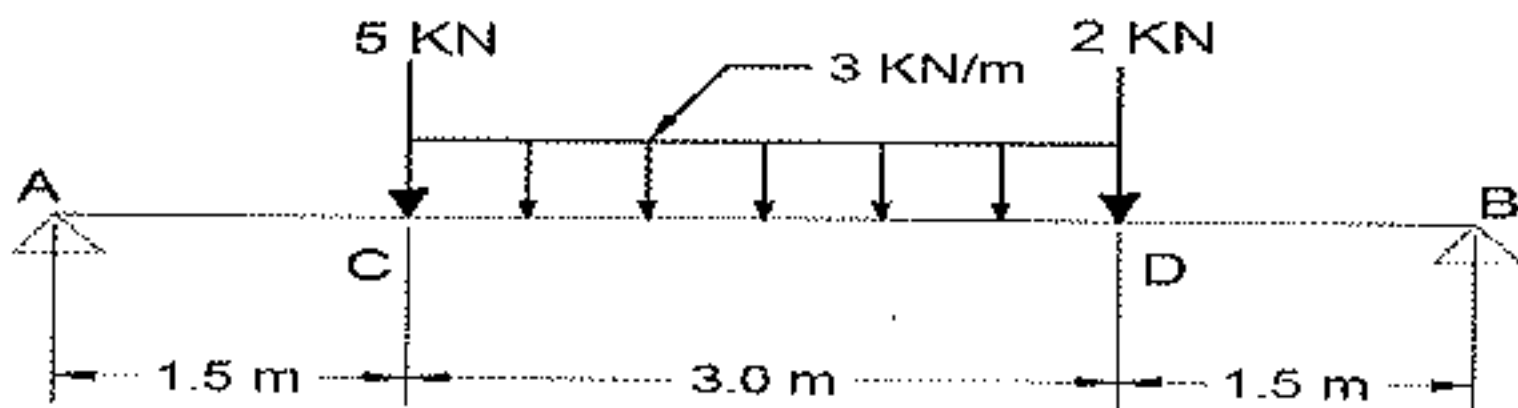
Instructions:

- Write legibly
- Scientific and non-programmable calculators are permitted

Part A

(2 Q x 5 M= 10 Marks)

- Name the types of supports used in practice. Also explain anyone with a neat sketch indicating the direction of reactions.
- A simply supported beam of span 6 m is subjected to loading as shown in the figure 1. Determine the reactions at A and B.

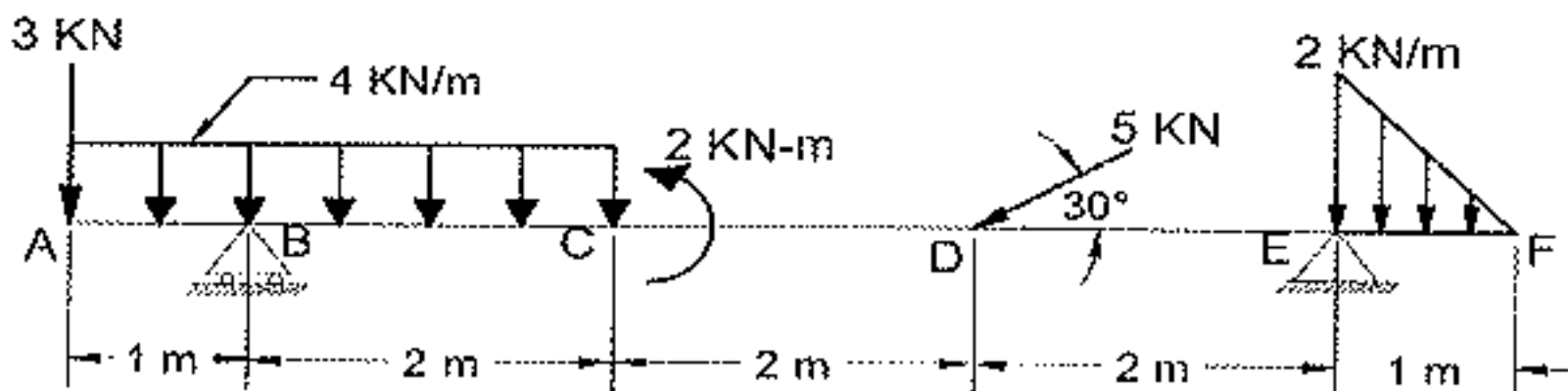


(Figure 1)

Part B

(1 Q x 10 M= 10 Marks)

- Find the support reactions of the beam loaded as shown in figure 2.

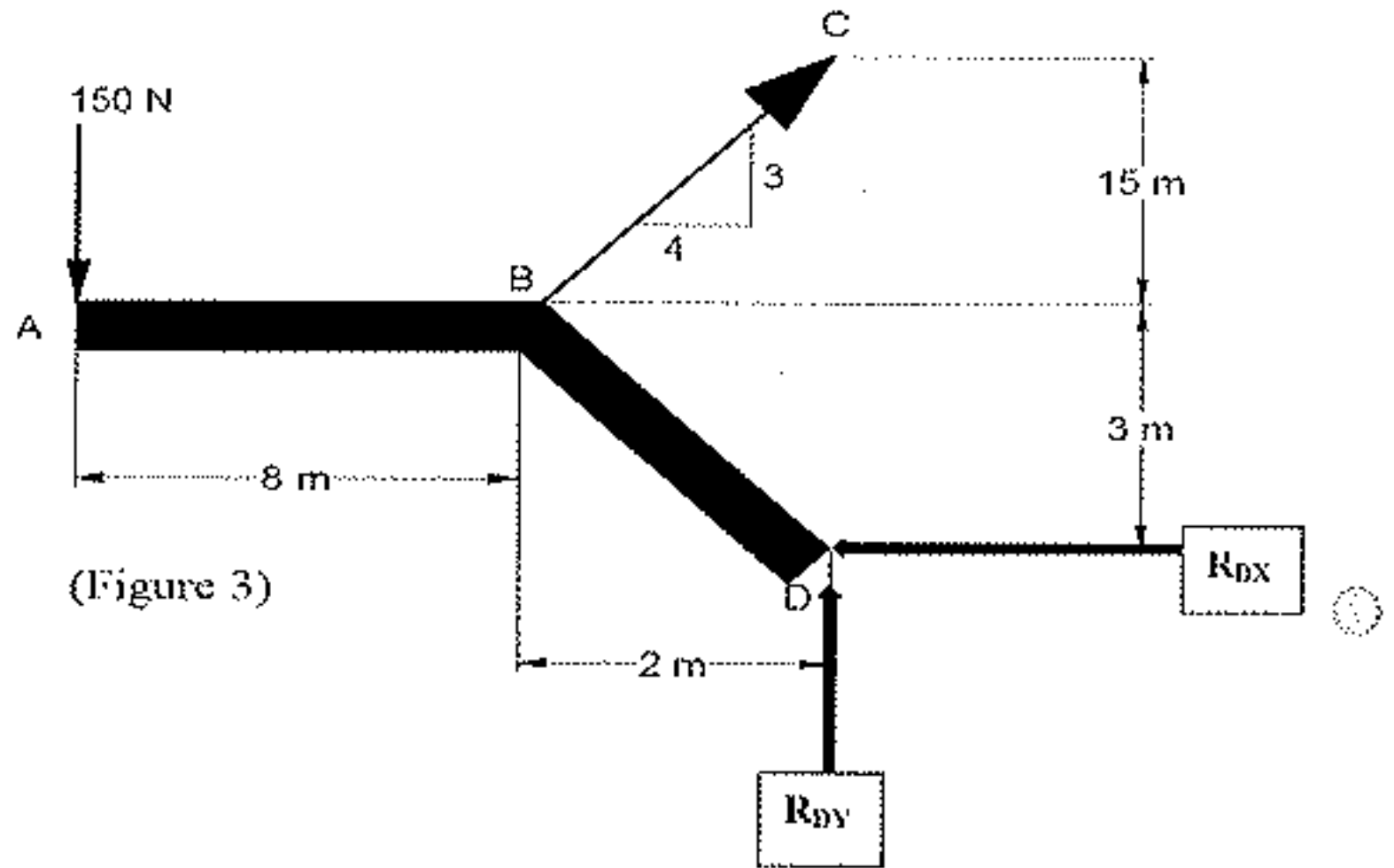


(Figure 2)

Part C

(1 Q x 10 M= 10 Marks)

4. Calculate the tension in the string BC and the reactions at the hinged support D for beam ABD in equilibrium, shown in figure 3.





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SET A

TEST-2

II Semester 2016-17

Course: ME A 110 Engineering Mechanics

24 March 2017

Instructions:

- i. Write legibly
- ii. Scientific and non-programmable calculators are permitted

Part A

(2 Q x 5 M= 10 Marks)

1. State and prove parallelogram law of forces.
2. An electric light fixture weighing 25 N hangs from a point C, by two strings AC and BC. The string AC is inclined at 60° to the horizontal and BC at 45° to the vertical; as shown in figure 1. Determine the forces in the strings AC and BC.

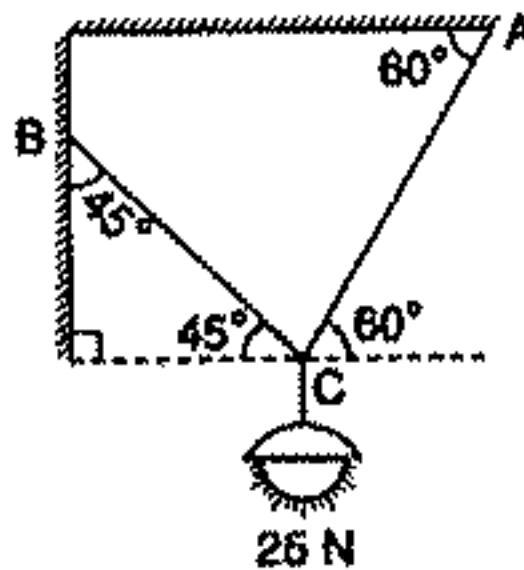


Figure-1

Part B

(1 Q x 10 M= 10 Marks)

3. A rigid plate ABCD is subjected to forces as shown in Figure 2. Compute the magnitude and line of action of the resultant of the system with reference to the point A.

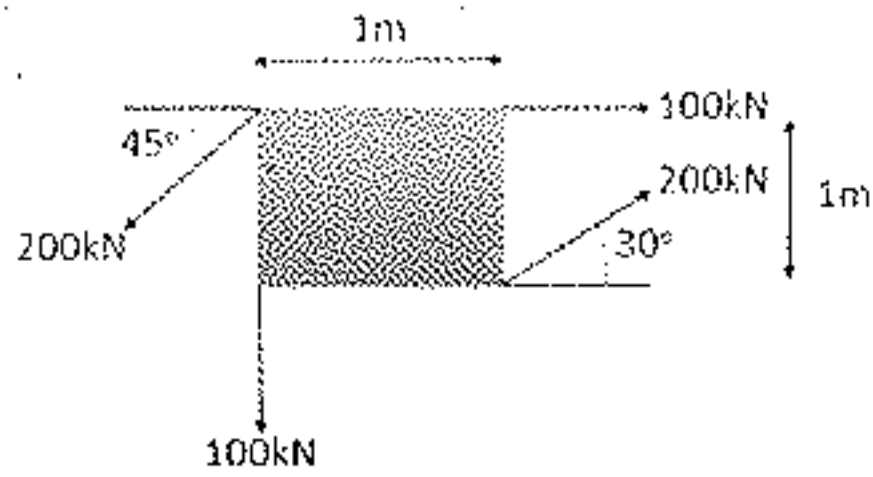


Figure -2

Part C

(1 Q x 10 M= 10 Marks)

4. Determine the reactions at contact points for spheres A, B and C as shown in figure 3. It is given that: $W_A = W_B = 4\text{KN}$, $W_C = 6\text{KN}$, $d_A = d_B = 500\text{ mm}$, $d_C = 800\text{ mm}$

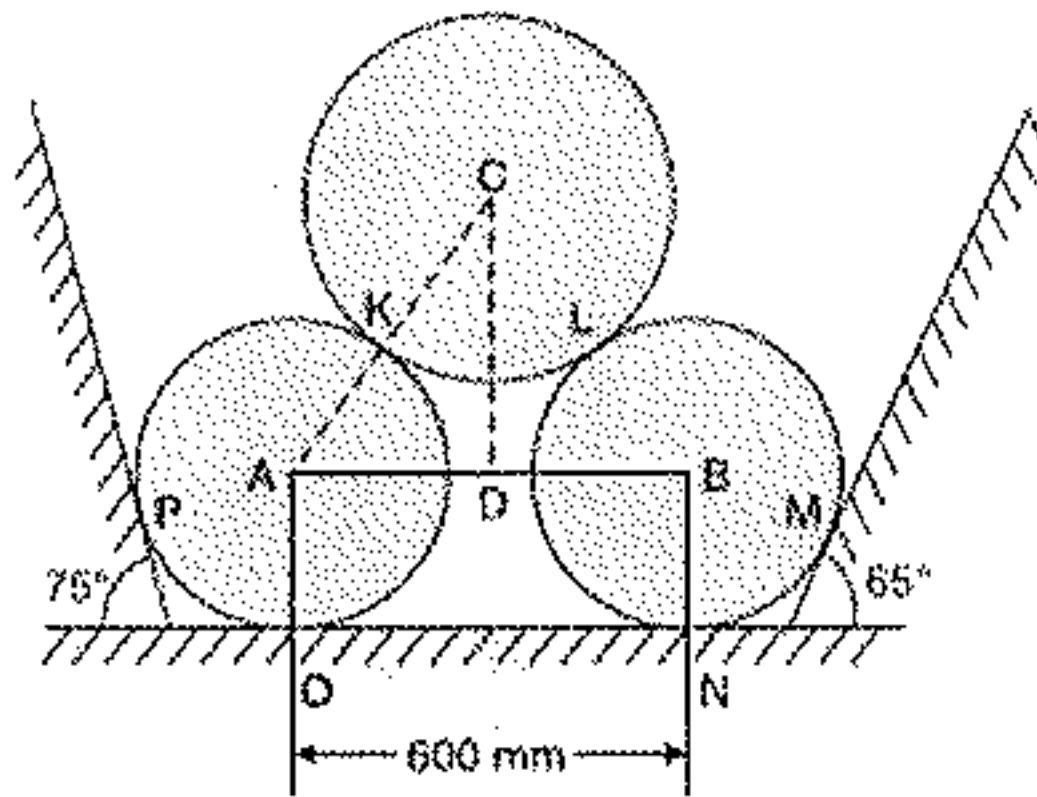


Figure -3



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Max Marks: 30

Max Time: 55 Mins

Weightage: 15 %

SET A

TEST-1

II Semester 2016-17

Course: ME A 110 Engineering Mechanics

25 February 2017

Instructions:

- i. Write legibly
- ii. Scientific and non-programmable calculators are permitted

Part A

(3 Q x 4 M= 12 Marks)

1. List assumptions made in Engineering mechanics
2. Define force and its characteristics.
3. State and explain Newton's 1st law of motion.

Part B

(2 Q x 5 M= 10 Marks)

4. Determine the resultant of the concurrent force system shown in figure -1.

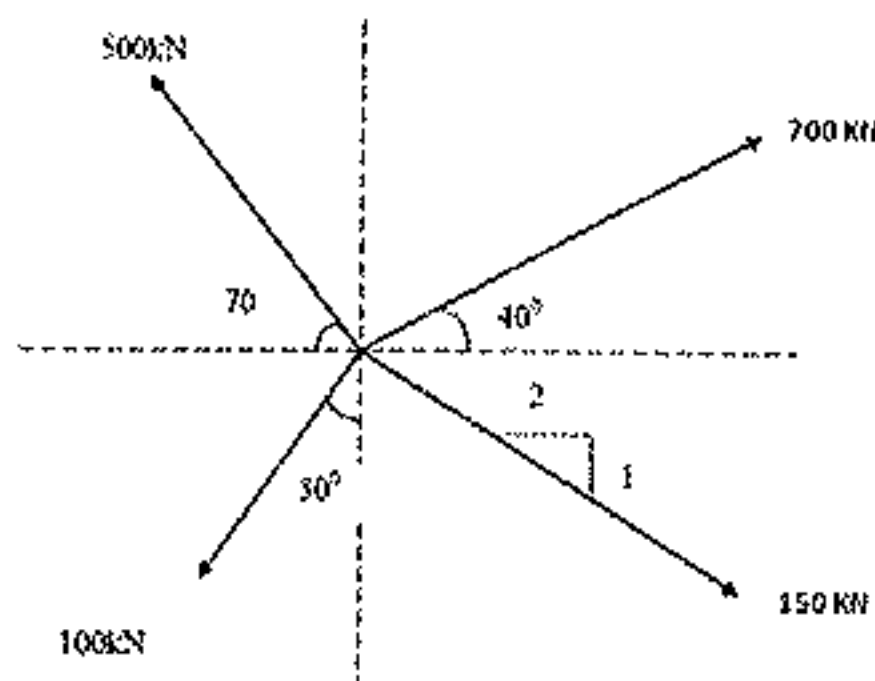


Figure -1

5. With neat diagram explain the principle of transmissibility of force.