

Instructions

Answer all questions.

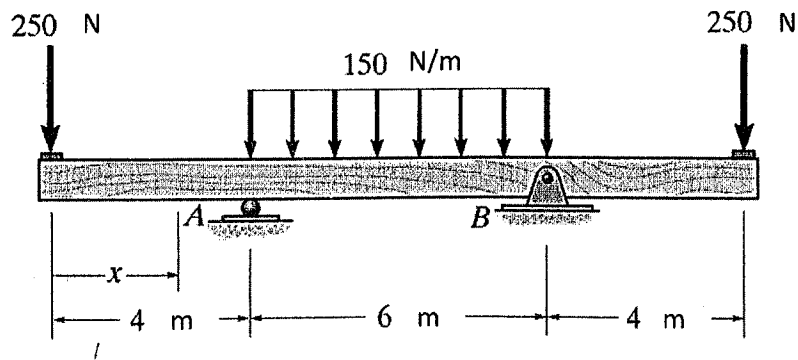
No. of questions : Two (02)
No. of pages : Two (02)
Time : Thirty (30) minutes
Total marks allocated : 50 %

Index No:

PART II – ESSAY

Question 01

1.1. The External Forces act on a beam is shown in the figure below. Answer the following questions.



- Find out the reaction forces act on each support. (20 Marks)
- Find out the Normal Force, Shear Force and Bending Moment at the middle point of the beam. (10 x 3 Marks)
- Draw the bending moment and shear force diagram along the distance of the beam. (10 x 2 marks)
- At which point or points bending momentum become zero? Find the distance of the point from left side of the beam. (10 x2 marks)
- Draw the bending pattern of the beam (sagging or hogging). (10 marks)

Question 02

2.1 Write short notes on,

- a) Viscosity of fluids
- b) Critical Reynold's Number
- c) Rule of continuous flow
- d) Bernoulli's Theorem of energy conservation of fluids

(10 marks)

(10 marks)

(10 marks)

(10 marks)

2.2 Following is a diagram of a manometer attached to a pipe with flowing water. Calculate the pressure at the centre (A) of the pipe, if the atmospheric pressure is equal to 500 mmHg. (60 marks)

