



**THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE**

***Faculty of Engineering & Technology***

**DEPARTMENT OF CIVIL AND BUILDING ENGINEERING**

**DB/DC 08**

**END OF SEMESTER EXAMINATIONS**

**APRIL/MAY 2010 SERIES**

**STRUCTURE**

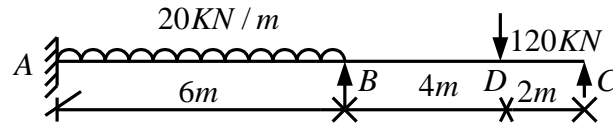
**TIME: 2 HOURS**

**Instructions to Candidates**

The paper has **FOUR** Questions i.e. question **ONE** is **COMPULSORY** and **ANY TWO** other Questions.

### **Question ONE**

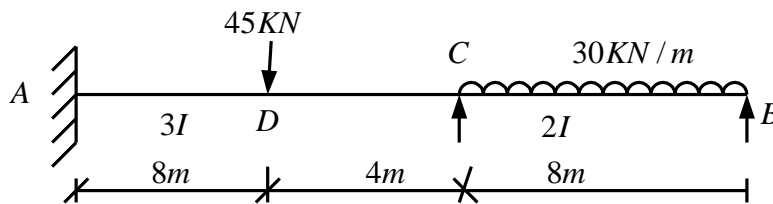
Using the method of three moment theorem analyze the beam of uniform cross-section shown in Fig. 1 and sketch the shear force and bending moment diagrams indicating the critical values. **(30 Marks)**



**Fig. 1**

### **Question TWO**

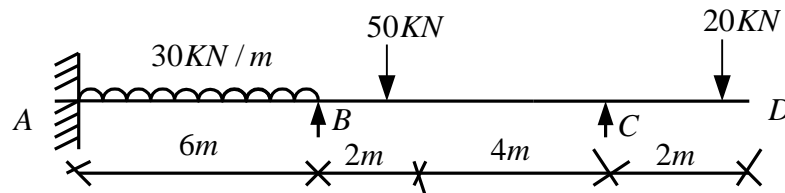
Using the method of moment distribution analyse the beam shown in fig. 2, and sketch the shear force and bending moment diagrams indicating the critical values. **(20 Marks)**



**Fig. 2**

### **Question THREE**

Using the three moment theorem, analyze the beam shown in fig. 3 and sketch the bending moment diagram indicating the values at the critical points. **(20 Marks)**

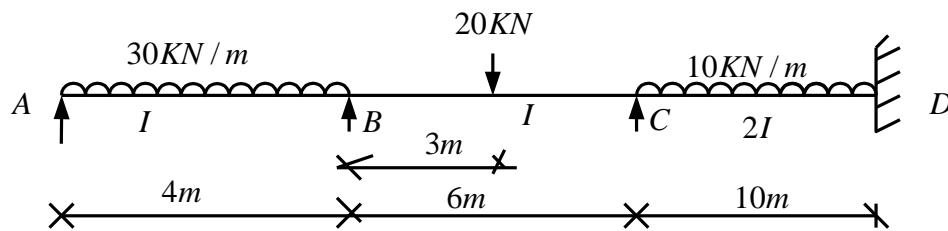


**Fig. 3**

### Questions FOUR

Fig. 4 shows a continuous beam which is enchan at D.

- (a) Using the **THREE** moment theorem, analyze the beam and sketch the bending moment diagram, indicating all critical values. **(16 Marks)**
- (b) Determine the value of the reactions. **(4 Marks)**



**Fig. 4**