Ministry of Higher Education
Giza Higher Institute for Eng. & Tech.
Civil Engineering Department
Course Name: **Theory of Structures (4)**
Course Code : **CIV 302**

Academic Year : **2015-2016**
Semester : **Second**
Level : **3rd**
Time : **1½ Hours**
Date : **5 / 4 / 2016**
Examiner: *Dr. M. Abdel-Kader*
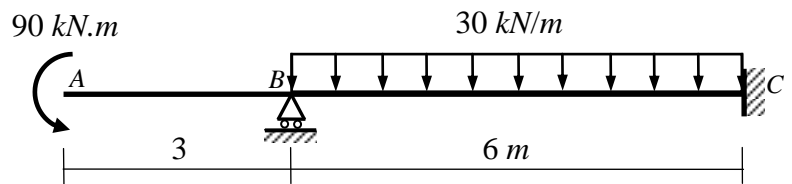
Mid-Term Exam

- The Exam consists of **2** questions in **1** page.

Question (1): (12 Marks)

For the shown beam, using the **three-moment equation**,
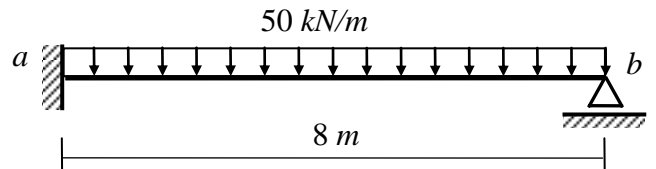(a) draw the shear force and bending moment diagrams due to the given loads.
(b) calculate the percentage increase in the moment at fixed support *C* due to settlement of support *B* by an amount of 10 *mm*.
$EI = 48000 \ kN.m^2$

Question (2): (8 Marks)

For the shown beam, using the **Consistent Deformations** (**Virtual Work**) method, draw the bending moment diagram due to the given load.

With my best wishes
Dr. M. Abdel-Kader