



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

University Examination 2010

THIRD YEAR/FIRST SEMESTER EXAMINATION FOR THE DEGREE IN BACHELOR OF SCIENCE IN CIVIL ENGINEERING SUPPLEMENTARY PAPER

ECE 2307: THEORY OF STRUCTURES III

SERIES: APRIL/MAY 2010

TIME: 2 HOURS

Instructions:

1. Answer question **ONE** and any other **TWO** questions.
 2. Each question to begin on a clean sheet or new page.
 3. Programmable calculations **not** permitted.
 4. Question 1 carries 40 marks; the other two questions carry 20 marks each.
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1. Consider the frame shown in figure 2.25 below, subjected to sideway to Δ the right of the frame.
 - (i) Analyse the rigid frame as shown below using slope deflection equations, derived from first principles. Assume EI to be constant for all members.
 - (ii) Explain the moment distribution procedure in analyzing frames and indeterminate beams, illustrating meaning of all applied terms by horizontal diagram of simply supported beam of length " l ", with constant EI and load w as udl.