

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION FOR THE BACHELOR OF BUSINESS ADMINISTRATION
WITH IT SECOND YEAR SECOND SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS

MAIN CAMPUS, MAY-AUG 2015 SEMESTER

ABA 205: MANAGEMENT MATHEMATICS II CAT

22/11/17

DATE:

INSTRUCTIONS

1. Answer all questions.
2. Show clearly and neatly all the workings.
3. Do not write anything on the question paper.

QUESTION ONE

(i) Work out: $\int (8x^3 + 3x^2 - 10x - 7)dx$ for $1 \leq x \leq 5$ (4marks)

(ii) The manager of Nakumatt retail stores in Kakamega determines the marginal revenue (MR) function of the store to be $MR=120+4Q$, where Q is the total number of items sold. Find the stores' total revenue if between 12 and 25 items are sold. (4marks)

(ii). Find the derivative of the function $Y = (5+4x^2)(2x^3 - 1)$ using the product rule (4marks)

(ii). The total cost (TC) function of a company XYZ is given as $TC=10000+50Q+4Q^2$, where Q =Units produced. Determine the units XYZ company should manufacture to minimize its average cost (4marks)

QUESTION TWO

a) The following linear equations relate to a production process of three products: X, Y and Z. By matrix inversion solve for the values of each products that optimizes the resources available.

$$X+Y+Z = 7$$

$$X+2Y+Z = 8$$

$$2X+Y+Z = 9$$

(12 Marks)

b) Assume that each unit of the product X, Y and Z sells for Ksh. 45, 1050 and 220 respectively, determine total sales value. (2 Marks)