

W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2017/2018**

**YEAR I SEMESTER I/ YEAR II SEMESTER II/ YEAR II SEMESTER II EXAMINATION FOR THE DIPLOMA IN BUSINESS ADMINISTRATION**

**HBC 0212: BUSINESS MATHEMATICS**

**DATE: AUGUST 2018 TIME: 1 ½ HOURS**

**INSTRUCTIONS: ANSWER ANY THREE QUESTIONS**

**QUESTION ONE (20 MARKS)**

1. Money has time value. A shilling today is more valuable than a shilling a year. Why? Give at least three reasons.
2. An employee who received fixed annual increment had a final salary of $9000 per year, after 10 years. If his total salary was 65,000 over ten years. What was his initial salary?

**QUESTION TWO (20 MARKS)**

1. Solve the following simultaneous equation by Cramer’s rule;
2. –x + 4y = 10 (ii) 3x + 4y = 0 (iii) 5x + 9y = -3

2x – 7y = 6 4x + 5y = 3 -2y + 6x = 28

1. A college bought 10 computers and 3 Laptop sat a total cost of Tsh.420,000. A school bought 4 computers and 15 Laptops from the same shop and paid Tsh.190,000 than the college. Find the cost of one computer and two Laptops.

**QUESTION THREE (20 MARKS)**

1. How much money will you have in 5 years if you invest Tsh.100 mil today at a 12% rate of interest (Use mathematical table)
2. Differentiate simple interest from compound interest.

**QUESTION FOUR (20 MARKS)**

You inherited a small sum of 2,000,000/=. You are wondering how long it will take for this amount to double if you deposit it into a bank account that can earn you interest at 10% compounded annually. (Use mathematical table)

**QUESTION FIVE (20 MARKS)**

Given the quadratic function f(x) = x2 – 8x + 8; find

1. The turning point
2. Axis of symmetry
3. Value of x1 and x2 (each 4 marks)
4. Domain and Range of the curve
5. Why the curve is called “Minimum”?