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University Examinations 2013/2014

FIRSTYEAR, FIRST SEMESTER EXAMINATIONS FOR CERTIFICATE IN BUSINESS
ADMINISTRATION

CBA 0102: BASIC BUSINESS MATHEMATICS

DATE: APRIL 2014

TIME: 1 ½ HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions.

QUESTION ONE – (30 MARKS)

- (a) A straight line meets the x-axis at 2 and the y-axis at $y = -4$, determine its equation. (5 Marks)
- (b) If Sh45,000 is lent at 9% simple interest p.a, after how many years will it earn interest of Sh.12,150. (3 Marks)
- (c) Find the median for the values: 19, 13, 18, 12, 25, 11, 10, 17, 23. (3 Marks)
- (d) Solve the linear equation $\frac{4}{x-2} + \frac{4}{3} = \frac{8}{3}$ (4 Marks)
- (e) The sum of an arithmetic progression of 8 terms is 90 and the first term is 6. What is the last term? What is the common difference? (4 Marks)
- (f) Use factorization method to solve. $6x^2 + 13x + 6 = 0$ (5 Marks)
- (g) A man sold a plot of land at Sh.80,000 and invested the money in a building society which pays 12% compound interest. After two years, he withdrew Sh35,000 and left the rest for a further 3 years. Calculate the amount at the end of the 5 years. (6 Marks)

QUESTION TWO – (15 MARKS)

(a) The following frequency table gives weekly wages of some labourers.

Class	450 – 540	550 – 640	650 – 740	750 – 840	850 – 940	940 - 1040
Frequency	23	19	25	20	18	15

Calculate:

- (i) Mean (3 Marks)
 - (ii) Median (4 Marks)
 - (iii) Standard deviation (4 Marks)
- (b) The sum of the first 10 terms of an arithmetic series is 400. If the sum of the first 6 terms of the same series is 120, find the 15th term. (4 Marks)

QUESTION THREE – (15 MARKS)

- (a) Solve the following equation graphically $x^2 + 3x + 1 = 0$ for $-5 \leq x \leq 2$. (12 Marks)
- (b) Find the gradient of line passing through the points (3, 4) and (2, -2) (3 Marks)

QUESTION FOUR – (15 MARKS)

A man opens a savings account and deposits Sh2000 each year at 5% compound interest p.a. Find an expression for the amount in his account at the end of

- (a) First year (2 Marks)
 - (b) Second year and (3 Marks)
 - (c) Third year (4 Marks)
- Hence, find the amount that he will have at the end of tenth year. (6 Marks)