The Management University of Africa

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CERTIFICATE UNIVERSITY EXAMINATIONS

SCHOOL OF MANAGEMENT AND LEADERSHIP

BRIDGING CERTIFICATE

FCC 101: REMEDIAL MATHEMATICS

DATE: 1ST APRIL 2026

DURATION: 2 HOURS

MAXIMUM MARKS: 70

INSTRUCTIONS

1. Write your registration number on the booklet.
2. **DO NOT** write in this question paper.
3. This paper contains **SIX (6)** questions.
4. Question **ONE** is compulsory.
5. Answer any other **FOUR** questions**.**
6. Question **ONE** carries **30 MARKS** and the rest carry **10 MARKS** each.
7. **Write all your answers in the examination answer booklet provided.**

QUESTION ONE

a) Differentiate between qualitative data and quantitative data. **(4 marks)**

b) Find the median of the following values:
6, 8, 12, 14, 18, 20. **(2 marks)**

c) Solve the simultaneous equations below using the substitution method:
$3x + 2y = 16$
$x - y = 2$ **(4 marks)**

d) Define the following terms as used in financial mathematics:
i) Principal **(2 marks)**
ii) Rate **(2 marks)**
iii) Annuity **(2 marks)**
iv) Hire Purchase **(2 marks)**
v) Depreciation (**2 marks)**

e) A salesperson earns 5% commission on sales. Find the commission earned if she sells goods worth Ksh. 120,000.
(3 marks)

f) Solve for x:
$5x + 7 = 2$ **(2 marks)**

g) The marks obtained by students are: 12, 15, 10, 20, 18, 25.
Find the range and explain what it shows about the spread of data.
(3 marks)

QUESTION TWO

a) A farmer invests Ksh. 15,000 in Treasury Bills at an interest rate of 8% p.a. for 3 years. Calculate the simple interest.
(4 marks)

b) A television set costs Ksh. 30,000. A deposit of Ksh. 10,000 is paid and the balance is cleared in 10 equal monthly instalments of Ksh. 2,300 each.
i) Find the total hire purchase price. **(3 marks)**

ii) Find the total interest paid. **(3 marks)**

QUESTION THREE

a) Solve the equations using the elimination method:

2x + 3y = 12
3x – y = 7 **(4 marks)**

b) Solve the quadratic equation using the quadratic formula:

$x^2 - 7x + 12 = 0$ **(4 marks)**

c) Solve for x:

2x – 5 = –13 **(2 marks)**

QUESTION FOUR

a) From the list of data below, find:

25, 40, 25, 50, 60, 25, 45, 30, 25, 40

i) Mode **(2 marks)**
ii) Median (**2 marks)**

b) State and explain any three methods of presenting data. **(6 marks)**

QUESTION FIVE

a) Find the integral:

$\int (4x^2 - 6x + 8)\, dx$ **(3 marks)**

b) Differentiate the following functions:

i) $y = 5x^3 - 2x^2 + 7x - 4$ **(3 marks)**

ii) $y = 2x^4 - 3x^3 + x^2 - 6x + 1$ **(4 marks)**

QUESTION SIX

a) The following data was collected:

F	5	10	15	20	25
X	2	3	4	2	4

Find the mean. **(5 marks)**

b) A businesswoman invests Ksh. 10,000 in a savings account offering 6% compound interest p.a. for 4 years. Calculate the compound interest. **(5 marks)**

FORMULAS

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Simple interest formula

S= P (1 + r t)

Compound interest

$$S = P(1 + r)^t$$

Mean $\bar{x} = (\sum fx)/(\sum f)$