ACADEMIC YEAR 2023 – 2024

Program	Term	Semester	Paper
FOUNDATION	1	1	MIDTERM

MODULE NAME:	BASIC MATHEMATICS I		
MODULE CODE:	FMTH003	EXAM DATE:	22/10/2023
TEACHER'S NAME:	KHALOUD AL AJMI	DURATION:	90 mins.

Questions to be answered on:	Allowed requirements	Number of pages
Space provided on the question paper	Pen Pencil (only for drawing)	(Incl. Cover Page): 06

Points of Attention:

- For each question, the maximum earned points are mentioned between brackets at the end of each question.
- Write very clearly! Answers that are not readable are not marked and don't get points!
- Make sure your answers are written to the point.
- All answers must be written **in English**.
- Write all the answers **in blue or black pen only**.
- When finished, submit the question paper, together with the answer scripts and the signed cover page to the invigilator.
- Any cheating/copying may fail the examination.

STUDENT NAME:	
STUDENT ID:	
CLASS:	

FINAL MARKS
20

Number of answer scripts: ……

Invigilator: ……

Student's signature: ……

Time of receipt: ……

Question 1 [4 Marks]

A family needs to travel 400 km to reach their holiday destination. If they leave at 7:30 am and travel at an average speed of 80 km/hr, find the arrival time.

Question 2 [4 Marks]

Find the indicated set if $U = \{1, 2, 3, \dots, 10\}$ $A = \{1, 2, 3, 7, 8\}$, $B = \{2, 4, 6, 8\}$, $C = \{7, 8, 9\}$.

a. $A \cap B$ (2 marks)

b. $B \cup C'$ (2 marks)

Question 3 [4 Marks]

Simplify the following expression and eliminate any negative exponents.

$(3a^4b^{-5})^3 \ (2a^3b^{-4})^2$

Question 4 [4 Marks]

Evaluate the expression given below.

$$\left(\frac{1}{3}+\frac{1}{5}\right)\left(\frac{3}{2}-\frac{1}{3}\right)$$

Question 5 [4 Marks]

The number of members of a service club increased from 80 to 88. What was the percent of increase in the club membership?

Units Conversion Table

$1\ km = 1000\ m$	$1\ m = 100\ cm$
$1\ cm = 10\ mm$	$1\ kg = 1000\ g$
$1\ g = 1000\ mg$	$1\ l = 1000\ ml$
$1\ tonne = 1000kg$	$1\ cm^3 = 1\ ml$
$1\ foot = 12\ inches$	$1\ yard = 3\ feet$
$1\ mile = 1760\ yards$	$1\ gallon = 8\ pints$
$F = \frac{9}{5}\ C + 32$	$C = \frac{5}{9}(F - 32)$

References:

Larson, R. and Hostetler, R. (2007) *Precalculus*. 7th edn. Boston: Houghton Mifflin Company.

Stewart, J., Redlin, L. and Watson, S. (2017) *Precalculus Mathematics for Calculus*. 7th edn. Cengage.