

NATIONAL UNIVERSITY OF LESOTHO  
INSTITUTE OF EXTRA MURAL STUDIES  
DIPLOMA IN ADULT EDUCATION PROGRAMME  
MAIN EXAMINATION 2022/2023

**AED 0106: BASIC NUMERACY FOR NON-MATHEMATICS LEARNERS**

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**JANUARY 2023**

**MARKS: 60**

**3 HOURS**

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**INSTRUCTIONS:**

1. Answer all questions
  2. Proof read your work before you submit
  3. Begin each question on a fresh page
  4. Label your answers correctly
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**You must properly fill in your details shown below on your answer sheet/booklet before you start the examination.**

Fill in your correct details below:									
Surname									
First Names:									
Student Number:					Academic Year: 1	2022 / 2023			
Course Code	<b>AED 0106 / DPM 0111-12:</b>								
Full Course Name:	<b>Basic Numeracy For Non Mathematics Learners</b>								
Tick Your Group	<b>A</b>		<b>B</b>		<b>C</b>		<b>D</b>		<b>Not Sure</b>
Name of lecturer:									

## QUESTION 1

(a) Write down an example of **one** number such that the place value of '7' is:

(i) thousands (1)

(ii) hundredths (1)

(iii) tens (1)

(b) Copy and complete

(i)  $109\text{mm} = \underline{\hspace{4cm}}\text{cm} = \underline{\hspace{4cm}}\text{km}$  (4)

(ii)  $56.08\text{ kg} = \underline{\hspace{4cm}}\text{ g} = \underline{\hspace{4cm}}\text{mg}$  (4)

(c) The length of a circular wheel is 2.95789 m. Write down the length of the wheel correct to:

(i) two decimal places (1)

(ii) three significant figures (1)

(iii) nearest metre (1)

(iv) to the nearest ten thousandths (1)

**[TOTAL: 15 MARKS]**

## QUESTION 2

(a) Define numeracy and give two examples where numeracy is used in our everyday life. (4)

(b) For **each** of the following numbers write any **two** types of numbers to which the number belongs.

(i)  $-8$  (2)

(ii)  $\sqrt{5}$  (2)

(iii) 103 (2)

(iv)  $\frac{5}{7}$  (2)

(c) The following are properties of some real numbers. Give **one** example in each case to illustrate each property:

(i) Associative property (2)

(ii) Commutative property (2)

(iii) Distributive property (2)

**[TOTAL: 18 MARKS]**

### QUESTION 3

(a) Work out:

(i)  $100 \div [5 - \{14 - (16 - 2)\}]$  (2)

(ii)  $\frac{3}{5} \times \frac{15}{23} - \frac{6}{7}$  (3)

(iii)  $(1 + \frac{1}{6}) \div \frac{3}{4}$  (3)

(iv)  $77.602 \times 0.005$  (2)

(b) Use a number line to show the following:

(i)  $7 + 2$  (3)

(ii)  $3 \times -4$  (3)

(iii)  $-5 + -3 + 1$  (3)

**[TOTAL: 19 MARKS]**

#### QUESTION 4

- (a) Arrange these numbers  $1.708$ ,  $\frac{4}{3}$ ,  $171\%$ ,  $\frac{3}{2}$ . (3)
- (b) Work out the product of  $83\%$  and  $76$ . (3)
- (c) A woman wants to buy a car shown below. The deposit of the car is  $\frac{2}{5}$  of the cash price. Her husband gives her  $30\%$  of the cash price for deposit. The woman said that the money was not enough.



- (i) Find the amount of money which the husband had to give the woman as a top up for deposit. **(Show all the necessary working)**. (5)
- (ii) After paying full deposit, a woman is instructed to pay M2500 per month for 12 months. Find the difference between the cash price and the total amount when buying in instalments. (2)
- (iii) What percentage of the cash amount would the woman pay when buying in instalments? (2)
- (d) The Lesotho Electricity Company monthly charges on prepaid electricity are as shown:
- First 21 units are sold at M0.95 per unit
  - Any unit above 21 is sold at M1.92 per unit

Mr Moeketsi a student at IEMS uses 19.5 units of electricity in a month. Mrs Thatho's household use 115 units of electricity in a month.

- (i) Calculate the amount paid by Mr Moeketsi per month for electricity (2)
- (ii) Find the amount paid by Mrs Thatho's household per month (3)
- (iii) For the month of December Mrs Thatho and her family paid M267.68 for the units. Calculate the number of units they used in December. (3)

**[TOTAL: 23 MARKS]**

#### QUESTION 5

- (a) A construction company bought bags of cement and 20l buckets of paint from a wholesaler. The table below shows the quantities and their cost exclusive of value added tax (VAT).

Product	Quantity	Cost in maloti (exclusive of VAT)
Cement	60	5 100.00
Paint	15	9 500.00

VAT is charged at the rate of 15%. The wholesaler offers a discount of 8% if M10, 000.00 inclusive of VAT is spent.

Calculate:

- (i) the VAT amount charged on cement and paint. (4)
  - (ii) the total amount inclusive of VAT that would be paid before discount. (2)
  - (iii) the discount received by the company. (2)
  - (iv) the amount received by the wholesaler. (2)
- (b) A couple made a simple budget for the family for the month of September 2022. The table includes the estimated amount, the actual expenses and the difference between the estimated and the actual.

	Month : September		
Description	Price		
Income	Budget	Actual	Difference
Salary	2 700	2 832	132
Partner's salary	1 500	<i>A</i>	25
<b>Total income</b>	<b>4 200</b>	<b>4357</b>	<b><i>B</i></b>
<b>Expenses</b>			
Groceries	2 300	<i>C</i>	20
Electricity	<i>D</i>	425	75
Water	80	<i>E</i>	-5
Rent	700	700	0
Transport	520	480	<i>F</i>
<b>Total Expenses</b>	<b>3 950</b>	<b><i>G</i></b>	<b>94</b>
Savings	250	377	<b><i>H</i></b>

- (i) Write down the value represented by each letter in the budget. (12)
- (ii) Did the family save less or more than it estimated? By how much? (3)

**[TOTAL: 25 MARKS]**