AMREF INTERNATIONAL TRAINING CENTER

Qualification Code	:	031306T4PSY, 102106T4COH
Qualification	:	COMMUNITY HEALTH, COUNSELLING PSYCHOLOGY LEVEL 6
Unit Code	:	HE/0S/CH/BH/02/6/A, PSY/OS/CO/BC/02 /06/A
Unit of Competency	:	Demonstrate Numeracy skills

WRITTEN ASSESSMENT

INSTRUCTIONS TO CANDIDATE

1. You have THREE hours to answer all the questions.
2. Marks for each question are indicated in the brackets.
3. The paper consists of TWO sections: A and B.
4. Do not write on the question paper.
5. A separate answer booklet will be provided.
6. Use of Scientific calculators is allowed.

This paper consists of four (4) printed pages.

Candidates should check the question paper to ascertain that all the pages are printed as indicated.

SECTION: A (40 MARKS)

Attempt all the questions in this section

1 The ratio of John's earnings to Mary's earnings is 5: 3. If John's earnings increase by 12%, his new figure becomes sh.5600. Find the corresponding percentage change in Mary's earnings if the sum of their new earnings is sh.9600 **(4mks)**

2 Evaluate $\frac{-12\div(-3)\times4-(-20)}{-6\times6\div+(-6)}$ **(4mks)**

3 The area of a rectangular garden is 1384.74 m^2. If its length is 44.1m, find its width **(4mks)**

4 Solve the unknown equation $\frac{3y}{2}-\frac{14y-3}{5}=\frac{y-1}{4}$ **(4mks)**

5 A ship P is due south of the lighthouse L. A ship Q is 4.8km due East of L. The bearing of Q from P is 030^0. P sails directly towards Q. Find the distance of P from L when its bearing from L is 110^0 **(4mks)**

6 The mass in kilograms of 9 sheep in a pen were 13, 8, 16, 17, 19, 20, 15, 14 and 11. Determine the quartile deviation of the data **(4mks)**

7 Two thirds of a loaf of bread is shared equally among four children. What fraction of the loaf does each get? **(4mks)**

8 A family consumes 5.5 litres of milk every day. How much milk does the family consume in the month of April? **(4mks)**

9 Simplify the expression: $\frac{9t^2-25a^2}{6t^2+19at+15a^2}$ **(4mks)**

10 Maria sells her car to Jane and makes a profit of 20%. Lucy sells the same to Tedd at Sh.180, 000, making a loss of 10%. Determine the price at which Maria bought the car. **(4mks)**

SECTION B(60 MARKS)

Choose any three questions in this section

11 a) A solid is made up by joining a cone of radius 14cm to a cylinder of the same radius. The slant height of the cone is 25 cm and the height of the cylindrical part is 28 cm. Determine the volume of the solid in litres correct to 4 decimal places. **(10mks)**

b) A segment is bounded by a chord of length 14 cm and an arc of radius 25 cm. Find:

i) It`s area **(5mks)**

ii) Perimeter of the segment **(5mks)**

12 Using a ruler and a pair of compasses only, draw a parallelogram ABCD, such that angle DAB = 75^0. Length AB = 6.0cm and BC = 4.0cm.From point D, drop a perpendicular to meet line AB at N. **(12mks)**

a) Measure length DN **(4mks)**

b) Find the area of the parallelogram **(4mks)**

13 a) A student takes a train for two-thirds of his journey, a bus for seven eighths of the remainder, and walks the rest of the journey. Given that the bus journey is 3 kilometers longer than the walking part, the total distance covered by the student is? **(7mks)**

b) A school watchman started walking due East from a dormitory 100m South of a bore-hole. He walked to the school library from which the bearing of the bore-hole is 315^0. He then walked on a bearing of 030^0 to the water tank. From the water tank he went west to the bore-hole. **(5mks)**

(i) Using a scale of 1cm to represent 20m, construct a diagram to show the positions of the tank, borehole, dormitory and library. **(4mks)**

(ii) Find the distance and bearing of the bore-hole from the water tank. **(4mks)**

(iii) Calculate the total distance covered by the boy.

14 The table shows marks obtained by 100 students at a Technical College in Mathematics examination.

Marks	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85-94
Frequency	6	14	24	14	x	10	6	4

a) Determine the value of x **(2mks)**

b) Calculate the mode **(4mks)**

c) Calculate the median mark **(4mks)**

d) Calculate the mean mark **(4mks)**

e) Calculate the standard deviation **(6mks)**