©2024 TVET CDACC

LEVEL 5

DEMONSTRATE NUMERACY SKILLS

July/August 2024

TVET CURRICULUM DEVELOPMENT, ASSESSMENT, AND CERTIFICATION COUNCIL (TVET CDACC)

WRITTEN ASSESSMENT

3 HOURS

easytvet.com

INSTRUCTIONS TO CANDIDATE

1. This paper consists of **TWO** sections **A** and **B**.
2. Answer **ALL** questions in sections **A** and **THREE** questions in section **B** in the answer booklet provided.
3. Marks for each question are indicated in brackets.
4. You should have a non-programmable calculator.
5. Do not write on this question paper.
6. Answer all the questions in **English.**

This paper consists of FIVE (5) printed pages

Candidates should check the question paper to ascertain that all pages are printed as indicated and that no question is missing

SECTION A (40 MARKS)

*Answer **ALL** questions in this section*

1. Evaluate without using a calculator (4 marks)

$$\frac{\frac{6}{7}\ of\ \frac{14}{3} \div 80 \times -\frac{20}{3}}{-2 \times 5 + (14 \div 7) \times 3}$$

2. Convert the recurring decimal $0.\dot{5}\dot{4}$ into a fraction (3 marks)

3. Given that 1 cm^3 of gold has a mass of 16g, calculate the mass of a spherical form of gold whose radius is 21cm. (Take $\pi = \frac{22}{7}$) (3 marks)

4. Find the mean and the median of the data: 70, 66, 85, 95, 90, and 80. (4 marks)

5. Arrange the following fractions in ascending order $\frac{2}{7}, \frac{3}{8}, \frac{1}{6}, \frac{5}{9}, \frac{11}{12}, \frac{3}{5}$ (4 marks)

6. Kariuki's pension of Ksh 445,500 was to be shared amongst his wife, daughter and son in the ratio $1:2:3$ respectively. His wife decided to divide her share equally between her daughter and son. Find how much the son finally got. (4 marks)

easytvet.com

7. The sum of interior angles of a regular polygon is 1080^0. Find the number of sides of the polygon. (3 marks)

8. The area of rectangular field is 435 m^2. If the width of the field is 15 m, calculate the perimeter of the field. (3 marks)

9. The distance between two points on a map is 15 cm on a scale of 1 cm represent 100 metres. Calculate the actual distance in kilometres. (3 marks)

10. Trainee in a Craft class scored the following marks in a Numeracy test:
99, 98, 97, 97, 96, 94, 92, 90, 88, 88, 83, 80, 80, 78, 76, 71, 71, 68, 60. Construct a frequency distribution table starting with the class $60 - 69$ (4 marks)

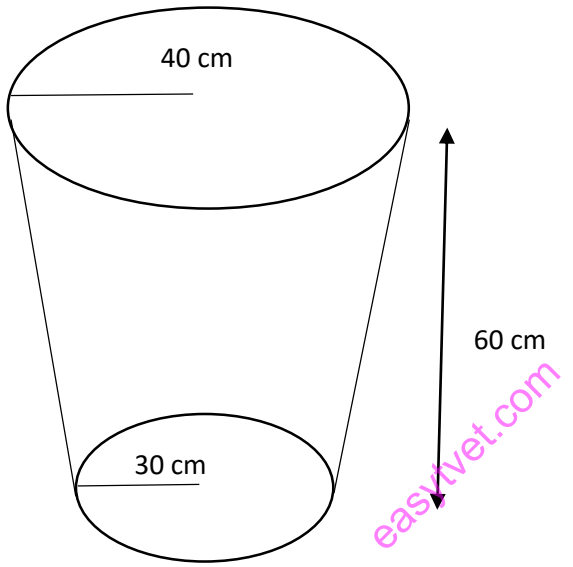
11. Using a pair of compass and a ruler only, construct an equilateral triangle ABC of length 6 cm. On the same diagram construct a circle through the vertices of the triangle. (5 marks)

SECTION B (60 MARKS)

*Answer any **THREE** questions from this section*

12. (a) Figure 1 shows a bucket made of a conical frustum with the dimensions as indicated. The bucket is used to fill a cylindrical tank of radius 0.9 m and height of 1.5 m. (Take π as 3.14)

Figure 1



easytvet.com

Calculate:

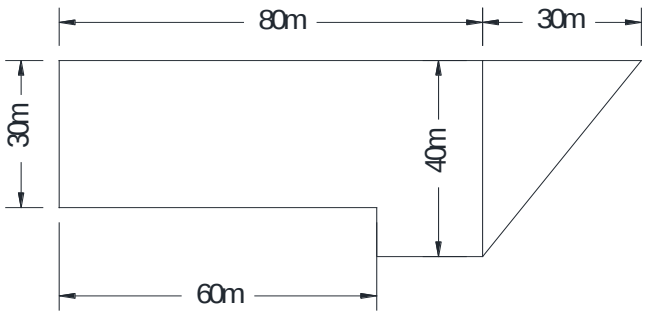
i) The volume of the bucket in litres (6 marks)

ii) Volume of the cylindrical tank in litres (3 marks)

iii) The number of buckets that must be drawn to fill the tank. (1 mark)

b) Figure 2 shows a plot belonging Uwezo Technical College.

Figure 2



i) Find the area of the plot (4 marks)

ii) Calculate the perimeter of the plot (4 marks)

iii) Calculate the number of poles required to fence the plot if the distance between poles is 2.5 m (2 marks)

13. (a) Town B is on a bearing of 060^0 from town A, a distance of 90 km. Town D is on a bearing of 200^0 from town A at a distance of 130 km. A police car leaves town B and moves southward to town C on a bearing of 140^0 from town A to intercept a matatu.

i) Using a scale of 1 cm to represent 10 km, draw a diagram to show the positions of towns A, B, C and D (7 marks)

From the diagram determine:

ii) bearing and distance from C to D (2 marks)

iii) Bearing of B from D (1 mark)

b) Mr. Eddy took a minibus travelling at 80km/hr. and arrived at Bongo 2 hours later. He then boarded a matatu to Sakha for 30 minutes at a speed of 60 km/hr. and finally walked to his home for 30 minutes at a speed of 10 km/hr.

easytvet.com

Calculate the:

i) Total distance covered by Mr. Eddy (4 marks)

ii) Total time for the Journey (1 mark)

iii) The average speed for the whole journey (2 marks)

iv) Time Eddy left Bongo if his arrival time was 3: 30 pm. (2 marks)

14. a) Figure 3 shows a triangle XYZ, determine the angles $A°, D°, C°\ and\ E°$ (5 marks)

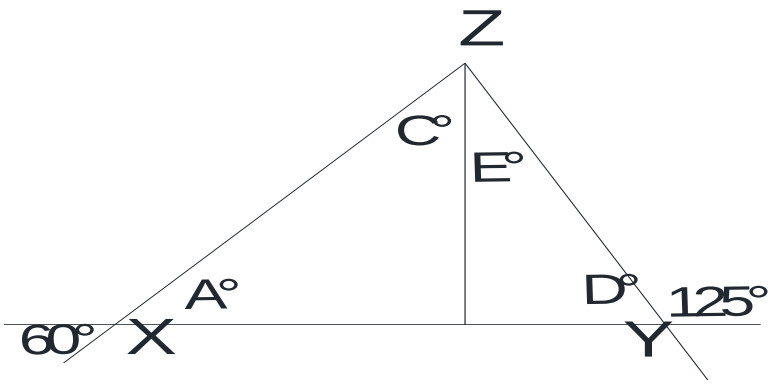


Figure 3

b) A quantity y is inversely proportional to the square of x, given that $y = 3$ when $x = 12$, find the value of x when $y = 27$. (5 marks)

c) Plot the graph of $y = 3x^2 + 2x + 1$, using a range of $-3 \leq x \leq 3$ (10 marks)

and hence solve $3x^2 - 2x - 1 = 0$

15. (a) Construct a trapezium ABCD using a ruler and a pair of compasses only such that AB= 10 cm, angle DAB= 120^0, angle ABC= 75^0 and line AD = 8 cm. From point D drop a perpendicular to the line AB to meet the line at E. Measure DE and DC hence calculate the area of trapezium. (10 marks)

b) Table 1 shows marks scored in numeracy skills exam by 170 trainees.

Marks	31- 40	41- 45	46 – 55	56 – 60	61 - 75	76 - 85
Students	25	30	50	20	30	15

Table 1

easytvet.com

Use the information in the table to draw a histogram (10 marks)

THIS IS THE LAST PRINTED PAGE