LEVEL 5

Demonstrate Numeracy Skills

November/December 202

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

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
4. **DO NOT** write on this question paper.

This paper consists of SIX (6) printed pages

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

SECTION A: (40 marks)

Answer ALL the questions in this section.

1. Evaluate without using a calculator and give your answer to 4 decimal places. (4 marks)

$$\frac{(0.73 \times 0.02) + 0.03}{1.8 \div 0.6}$$

2. A factory produced 200 rolls of barbed wire in a 5-day working week. What was the rate of production of rolls of wire per day. (3 marks)

3. The area of a rectangle is $80cm^2$, and the length is 6cm. Find the breadth correct to 2 significant figures. (3marks)

4. Table 1 shows the grades scored by a class of 30 students in a numeracy examination. Draw a frequency distribution table. (3 marks)

Table 1

C	C	C	B	A
B	C	B	B	B
C	B	A	A	B
B	A	B	D	A
B	C	D	C	D
B	C	A	C	C

5. Express $2.8\dot{3}$ as a fraction. (4 marks)

6. Find the volume of a cuboid which is x m by y cm by z mm. Give your answer in mm^3 (4 marks)

7. Given that $X:Y = 2:3$ and $Y:Z = 1:2$. Determine the ratio of $X:Z$ (3 marks)

8. Find the unknown angles in figure 1 (5 marks)

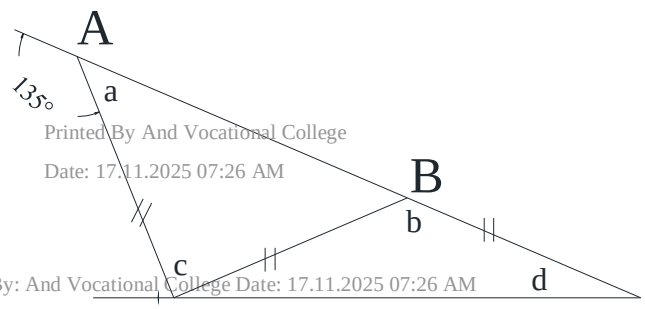


Figure 1

9. The distance between town A and B on a map is 120 cm on a scale of 1 cm represent 50 kilometres. Calculate the actual distance in kilometres. (3 marks)
10. Table 2 shows grades scored by a trainee who sat for certain units. Draw a pie chart to represent the units. (5 marks)

SCORES	
55	
B	50
C	40
D	35

11. Solve the quadratic equation by factorization method. $x^2 - 2x - 8 = 0$ (3 marks)

SECTION B: (60 marks)

Answer Any THREE questions in this section.

12. A marketing team collected data on customer preferences and presented the following: Electronics (30%), Clothing (25%), Furniture (20%), Groceries (15%), and Others (10%).

    a) Organize the data in a table representing the percentage of customers preferring each product type. (5 Marks)

    b) Construct a pie chart to represent the data presented above (10 Marks)

    c) Evaluate the following using the calculator to corr

    $$\left(\frac{568+332-125}{68\times24}\right) \times 48 \div 15$$ (5 Marks)

13. Figure show a structure of a round house of radius 4cm comprising of a cylindrical wall of height 10cm and a conic roof that is 8cm high.

    a) Calculate the total volume of the structure. (6 Marks)

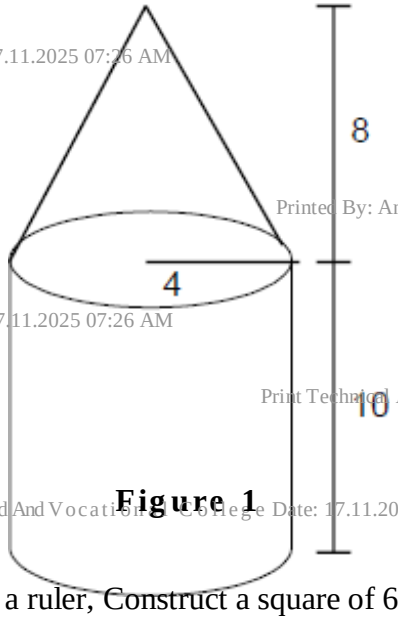
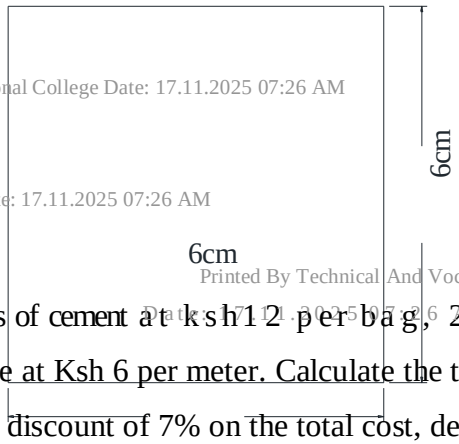


Figure 1

b) Using a pair compass and a ruler, Construct a square of 6 cm. (5 Marks)



c) A contractor purchases 40 bags of cement at ksh12 per bag, 25 liters of paint at Ksh10 per liter, and 70 meters of cable at Ksh 6 per meter. Calculate the total cost of these materials. If the contractor receives a discount of 7% on the total cost, determine the new amount he must pay (9 marks)

14. A construction worker completes 75% of a task in 6 hours.

(a) Calculate how long it would take them to complete the full task. (4 Marks)

(b) uires new carpeting, and its dimensions are 4.5 *m by* 3.2 *m*. Calculate the area of the room in and determine the cost if the carpet is priced at *Ksh* 300 per square meter. (3 Marks)

(c) Explain how common geometric instruments such as a protractor and a compass are used to draw and measure angles in routine tasks. Give an example of a practical application for each. (4 Marks)

(d) Sketch with the following angles: 45°, 45°, and 90°. Calculate the area of the triangle if the length of the base is 6 cm and the height is 4 cm. (6 marks)

(e) Using a map, a delivery driver must travel north for 3 kilometers, then west for 4 kilometers. Estimate the straight-line distance between the starting point and the destination. (3 Marks)

15. Table 1 shows the scores of students in Numeracy skills test grouped in a frequency table. A)

a) Construct a histogram representing the scores in the table. (5 Marks)

Table 1

Score range	Number of students
0 -10	2
11 -20	5
21 - 30	8
31 - 40	
41 - 50	3

b) A logistics manager is responsible for converting different units of measurements and determining the best methods for transporting goods. Convert 5.2 kilometers into meters and 8400 grams into kilograms. (6 marks)

c) A road map uses a scale of 1: 50000. If a road on the map uses 12cm, estimate the actual distance of the road in kilometers. (5 Marks)

d) In a triangle one angle measures 60° and the other two angles are equal. Using a formal mathematical language, describe the types of angles in the triangle and compare them. (4 Marks)