

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

LEVEL 6

Demonstrate Numeracy Skills

November/December 2025

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM



Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

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

WRITTEN ASSESSMENT

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

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

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

This paper consists of FOUR (4) 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. An employee spends $\frac{1}{4}$ of his net salary on school fees. He spends $\frac{1}{4}$ of the remainder on electricity and water bills. He then spent $\frac{1}{9}$ of what was left on transport. If he finally had **Ksh. 1,600**, find his net salary (4 marks)
2. Solve: $9^{4x} \div 3^{2x} = 2187$ (3 marks)
3. Without the use of a calculator, evaluate; $\left(\frac{5}{7} \times \frac{2}{3}\right) + \left(\frac{5}{6} - \frac{8}{9}\right) \div \frac{7}{15}$ of $\frac{5}{6}$ (4 marks)
4. The area of a right-angled triangle is 4860 cm^2 if the base length is 135 cm , calculate the hypotenuse of the triangle. (4 marks)
5. Find the equation of the line which passes through $(-6, -4)$ and is parallel to $5y - 2x = 10$. (4 marks)
6. x varies directly as the square root of y and inversely as the cube root of z . Given that $x = 64$ when $y = 4$ and $z = 27$. Find x in terms of y and z (3 marks)
7. In a mixed class of 45 trainees, the mean score in a Numeracy skills test was 45 for 24 boys and 58.8 for the girls. Find the mean score for the whole class. (4 marks)
8. It takes 30 minutes for a man to travel a distance at 12 Km/hr . Find the time taken to cover the same distance at 18 Km/hr . (3 marks)
9. The interior angle of a regular polygon is 144° greater than the exterior angle. Find the number of sides the polygon has. (4 marks)
10. A cyclist travels the first $x \text{ km}$ of his journey at 20 km/h , and the remaining 70 km of the journey at 15 km/hr . The whole journey takes him 8 hours . Find the value of x . (4 marks)
11. Solve the simultaneous equations by substitution method: (3 marks)

$$7m + 6n = 8$$

$$2m - 3n = 7$$

SECTION B (60 MARKS)**Answer Any THREE Questions in This Section**

12. (a) A solid cylinder has a radius of 18 cm and height 15 cm. a conical hole of radius r cm is drilled in the cylinder on one of the end faces. The conical hole is 12 cm deep. If the material removed from the hole is $\frac{1}{9}$ of the volume of the cylinder. Find

(i). The surface area of the hole (11 marks)

(ii). The radius of a spherical ball that could have been made from the material removed. (4 marks)

(b) Find how many kilolitres of water are there in a full rectangular tank $4\frac{1}{2}m$ long, $4m$ wide, and $2\frac{1}{8}m$ long. (5 marks)

13. (a) Table 1 shows the distribution of measurements of different clothing pieces, given the $Mean = 25$.

Table 1

Length (cm)	24.92-24.94	24.95-24.97	24.98-25.00	25.01-25.03	25.04-25.06	25.07-25.09
No of clothes	2	3	a	23	18	5

Find;

(i). Value of a

(ii). Total number of pipes

(iii). Standard deviation

(iv). Quartile deviation

(b) The ratio of boys to girls in a class is $8 : 13$. Two more boys joined the class while 5 girls dropped from the class. The new ratio of boys to girls in the class is $7 : 10$.

Find the;

(i). The original number of boys in the class

(ii). Original number of girls. (6 marks)

Printed By: Pac Institute Of Technology And Social Studies

Date: 17.11.2025 07:17 AM

14. (a) Draw the graph of the given function $y = x^2 - 4x + 3$, between $-3 \leq x \leq 7$

Hence, determine the turning point of the curve and estimate the roots.

(12 marks)

(b) Evaluate the gradient and y-intercept of the line whose equation is $3y - 6x + 7$.

(6 marks)

(c) Find the gradient of the line which passes through points (5,0) and (0,9)

(2 marks)

15. (a) A Matatu is travelling at a constant speed of 80 km/h from Town A to Town B through

Town C then back to Town A. Town B is 10km on a bearing of 045° from Town A while town C is 11km on a bearing of 120° from Town B. Use scale drawing to construct the

bearing of the three towns A, B and C. and hence;

(i). Determine the distance between Town A and Town C and the bearing of town A from town C.

(ii). The time taken by the Matatu to cover the entire journey in minutes. (15 marks)

b) Table 2 shows how Andrew spends Ksh 180 per week in household items. Draw pie chart representing this information. (5 marks)

Table 1

Household Items	Expenditure
Food	30
Fruits	40
Cloths	50
Tokens	35
Others	25
Total	180

THIS IS THE LAST PRINTED PAGE