THE UMITED REPLUBLIC OF TANZANIA
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION
HOJAJEMWA – TERMINAL ECLUSTER EXAMINATI
FORM TWO
BASIC MATHEMATICS

TIME 2:30HRS MAY 2025

INSTRUCTION
DO ALL QUESTIONS NEATLY

1) A) i) write 498030 in words.
   ii) Express the number given in (a) (i) in standard form
   ii) By using listing method, write the lowest common multiple of 3, 10, and 15

   B) Determine the number of significant figures in each of the numbers. 400,780 and 0.00606 and then approximate each number into one significant figure.

2) A) i) write 64 as a power with base 4 (ii) express $32=25$ in logarithmic form.

   b) i/ simplify $3^{9}/_{10} \div (3^{3}/_{5} - 1^{1}/_{2})$
   Ii/ change 0.56 into a fraction in its simplest form

3) A) How many money will you have to lend in order to get the interest of 36,000 at 5% per annual if you lend it for 6 months?
   b) Solve for x in the equation $1-\frac{x-2}{2}= x-3$
4) A) the perimeter of an is 0sceles triangle is 15cm if the base is 7cm long represent this information in diagram and then find the length for each of the remaining equal sides
   B) If a straight line AB that passes through the point A (2, 6) and B (t, 3) has a gradient of -1, find the value of t
5) A) if $a*b=a^{2}+b$, find the value of m if $(1*3)*m =18$

B/ rationalize the denominator $\frac{a-b}{\sqrt{a}+\sqrt{b}}$

6) a/ without using mathematical table simplify completely $\frac{4^{-3}\times 16^{3}}{8^{2}\times 32^{-1}}$

   B/ solve form if $16^{(3-m)}\ 2^{(1+m)} = \frac{1}{2}$

7) a/ factorize completely t3 -4t and hence use the results concept to find the exact value of $(10003)^2 - (9997)^2$

   B/ which is greater $\sqrt[3]{27}$ or $\sqrt[5]{32}$?

8) a/ a formula connecting u,v and f for spherical mirror is 1/f = 1/v+1/u , express v in terms of other letters and calculate the value of v where f=8.1 and u=5.4

   B/ find the value of y2 if $2^y \times 16 \times 8^y$ is equal to 256

9) a/ using the concept of different of two squares evaluate $\frac{(1.295)^2-(1.297)^2}{1.295-1.297}$

   B/ without using mathematical table, evaluate 4 log2 + 2log5 – log4

10) a/ if $x\text{-}65^0$ and $4x + 10^0$ are complementary angles find the value of x

   B/solve the quadratic equation $x^2 + 7x + 12 = 0$