INDICES AND LOGARITHMS KCSE QUESTIONS WITH ANSWERS MODEL27042023

- ¹ Without using a calculator, solve for x in the equation $0.5^{X} \times 0.125^{1-X} = 32$
- 2 Solve for x given

$$\left(\frac{1}{8}\right)^x \times 64^2 = 256$$

- ³ Given that $\sqrt[3]{9^4} = 3^n$, find the value of *n*.
- 4 Use logarithms to evaluate,

$$\sqrt[3]{\frac{(1.654)^2}{45.73 \times 0.56}}$$

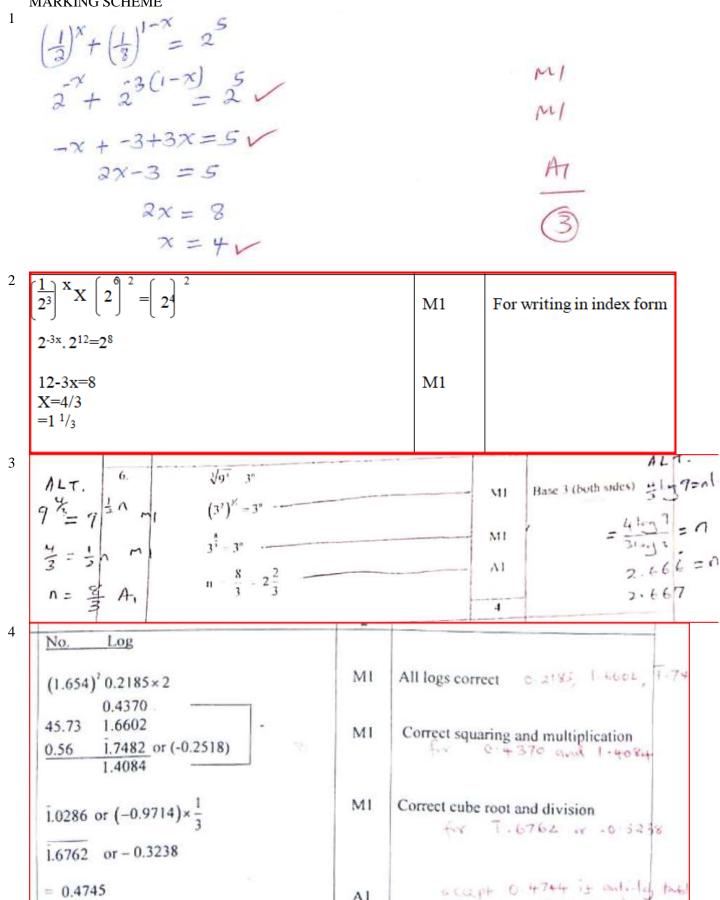
5 Without using mathematical tables or a calculator, evaluate

$$27^{\frac{2}{3}} \times \left(\frac{81}{16}\right)^{\frac{-1}{4}}$$

⁶ Use logarithm tables to evaluate

$$\frac{2347 \text{ x } 0.4666}{3\sqrt{0.0924}}$$

MARKING SCHEME



Al

4

are used.

$$27^{\frac{2}{3}} \times \left(\frac{81}{16}\right)^{\frac{1}{4}} = (3^{3})^{2} \times \left(\frac{3^{4}}{2^{4}}\right)^{\frac{1}{4}} = 3^{2} \times \left(\frac{3}{2}\right)^{-1} = 3^{2} \times \left(\frac{3}{2}\right)^{-1} = 3^{2} \times \left(\frac{3}{2}\right)^{-1} = 3^{2} \times \frac{2}{3} = 6$$

$$\frac{1}{23.47} \xrightarrow{0.4666} \xrightarrow{1.6689} = 3.0394 = 3.$$