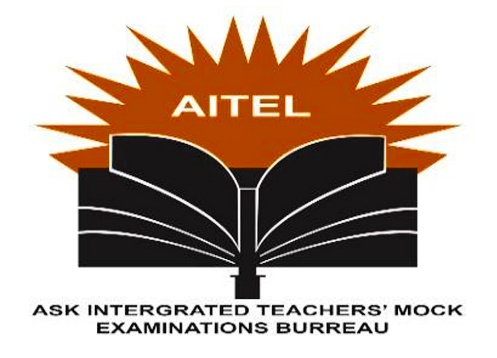
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**P425/1**

**PURE MATHEMATICS**

**PAPER 1**

**APRIL 2024**

**3 HOURS**

**MATHEMATICS DEPARTMENT**

**END OF TERM ONE EXAMINATIONS S.5**

**MATHEMATICS PAPER 1**

**Time: 3 Hours**

**NAME:……………………………………………………………….COMBINATION………………………**

**INSTRUCTIONS**

**Attempt All questions in this paper.**

**Show your working clearly.**

**SECTION A**

1. (a) If Z = α: Simplify: (03 marks)

(b) If t =; Simplify t (1 +t2). (02 marks)

2. Solve the equation 22x+1—5(2x) + 2 =0 (05 marks)

3. Simplify. (04 marks)

4. Solve the equation, for 0° ≤≤ 180° (05 marks)

5. Evaluate — ; given that = 2.236 and = 1.732 (05 marks)

6. Prove that + 1 = (05 marks)

7. Solve for equation;; verify your answer. (05 marks)

8. If and ; prove that (x2—y2)2 = 16xy (06 marks)

**SECTION B**

9. (a) Express as a single logarithm and simplify. (05 marks)

(b) Solve for x in (05 marks)

10. (a) Prove that (05 marks)

(b) Solve for x in for 0° ≤ x ≤ 360° (05 marks)

11. (a) Given that , Show that Hence solve for x and y in the simultaneous equations:

(b) If and ; determine the value of x and y (05 marks)

12. (a) Prove that (05marks)

(b) Solve the equation for (05 marks)

**\*\*END\*\***