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**MOCK TEST - 1**

 **MATHEMATICS CORE (041)**

**GRADE –X Time Allowed: 40 mins**

**Date: 8.07.24 Maximum marks: 20**

**SECTION-A**

**I. MULTIPLE CHOICE QUESTIONS:** **3X 1 = 3**

1. If the roots of $ax^{2}+ bx+c=0$ are equal , then the value of c is……..

 a) $\frac{-b}{2a}$ b) $\frac{b}{2a}$ c) $\frac{b^{2}}{4a}$ d) $-\frac{b^{2}}{4a}$

2. For what value of k, the roots of the quadratic equation $3x^{2}+ 2kx+27=0$ are

 real and equal?

 a) k =$\pm 4$ b) k =$\pm 3$ c) k =$\pm 6$ d) k =$\pm 9$

3. If the discriminant of a quadratic equation is less than zero then it has

a) equal roots b) real roots

c) no real roots d) can’t be determined

**SECTION – B**

**II. ANSWER THE FOLLOWING:** 3 **X 2= 6**

4. Find the nature of roots of the quadratic equation $2x^{2}- 4x+3=0.$

5. Solve the following quadratic equation$ 2x^{2}+\frac{5x}{3}-2=0$.

6. Find the dimensions of a rectangular park whose perimeter is 60m and area

 200$ m^{2}$.

**SECTION – C**

**III. ANSWER THE FOLLOWING:** 2 **X 3 = 6**

7. Solve the quadratic equation: $\left(x-1\right)^{2}-5x\left(x-1\right)-6=0.$

8. Solve the following: $\sqrt{2 }x ^{2}+ 7x+5 \sqrt{2 }$ = 0

**SECTION –E**

**V. ANSWER THE FOLLOWING:** **1X 5 = 5**

9. a) One fourth of a herd of camels was seen in the forest. Twice the square root of

 the herd had gone to mountains and the remaining 15 camels were seen on the

 bank of a river. Find the total number of camels.

or

 b) Solve the following:

$\frac{x-1}{2x+1}+ \frac{2x+1}{x-1 }=2$