

ATOMIC ENERGY CENTRAL SCHOOL -5, MUMBAI

PERIODIC TEST-1 JULY 2023

TIME : $1\frac{1}{2}$ HRS

CLASS : 10

SUB : MATHEMATICS

MAX. MARKS : 40

Section -A

- Qu. 1 Choose the correct answer and write. 1x7=7
- i. $3 - \sqrt{5} + \sqrt{5}$ is
a) an integer b) a decimal c) an irrational number
d) none
- ii. Graph of a quadratic polynomial is
a) straight line b) circle c) parabola d) ellipse
- iii. If $31x+43y=117$ and $43x+31y=105$ then the value of $x+y$ is
a) -3 b) -1 c) 1 d) 3
- Iv. If the quadratic equation $px^2 + 2x + p = 0$ has equal roots,
the values of p are
a) ± 1 b) 0,2 c) 0,1 d) none
- V. HCF of (306 , 657) is
a) 2 b) 4 c) 9 d) none
- vi. The discriminant of the quadratic equation $3x^2 + 4x - 2 = 0$ is
a) 40 b) 36 c) 24 d) 48
- vii. $n^2 - 1$ is divisible by 8, if n is
a) A whole number b) a natural number c) an odd integer
d) an even integer

SECTION –B

(Q.No. 2 to Q. No.9 carry 2marks each)

2 x 8 = 16

Qu. 2 Find the zero of the polynomial $p(x) = x^2 + 7x + 12$

Qu. 3 Write the prime factors of 8400

Qu. 4 Find whether the line representing the following pair of linear equations intersect at a point or parallel or coincident

$$9x - 3y + 6 = 0$$

$$4x - 5y + 2 = 0$$

Qu. 5 Find the roots of the quadratic equation

$$10X^2 - 9x - 7 = 0$$

Qu. 6 If α and β are the zeros of a quadratic polynomial such that $\alpha + \beta = -6$ and $\alpha \times \beta = -4$ then write the polynomial

Qu. 7 Solve by elimination method

$$3x + 5y = 24$$

$$5 - y = 12$$

Qu. 8 Prove that $5 - \sqrt{3}$ is an irrational number.

Qu. 9 Find the value of k for which the quadratic equation $9x^2 - 3kx + k = 0$ Has equal roots.

Section ---C

3 x 3 = 9

(Q. No. 10 to Q.No.12 carry 3marks each)

QU. 10 Solve : $2x - y - 3 = 0$
 $4x - y - 5 = 0$

Qu. 11 Find a quadratic polynomial , the sum and product of whose zeroes are 2 and $-\frac{3}{5}$ respectively.

Qu. 12 Find a natural number whose square is diminished by 84 is equal to thrice of 8 More than the given number.

Section –D

2 x 4 = 8

(Q. No. 13 to Q.No. 14 carry 4 marks each)

Qu. 13

To enhance the reading skills of grade X students, the school nominates you and two of your friends to set up a class library. There are two sections- section A and section B of grade X. There are 32 students in section A and 36 students in section B.



1. What is the minimum number of books you will acquire for the class library, so that they can be distributed equally among students of Section A or Section B?
 - a) 144
 - b) 128
 - c) 288
 - d) 272
2. If the product of two positive integers is equal to the product of their HCF and LCM is true then, the HCF (32 , 36) is
 - a) 2
 - b) 4
 - c) 6
 - d) 8

Qu.14 Prove that $\sqrt{2}$ is an irrational number.
