

CLASS X

SAMPLE PAPER-01

MATHS

General Instructions: *All the questions are compulsory. Section A consists of 10 questions of 1 mark each (1 to 10) Section B consists of 5 questions of 2 marks each (11 to 15) Section C consists of 10 questions of 3 marks each (16 to 25) Section D consists of 5 questions of 6 marks each (26 to 30)*

Section – A

1. Given that $\text{LCM}(150, 100) = 300$ find $\text{HCF}(150, 100)$
2. Find the number of zero's for $p(x)$.
3. Is the following equation quadratic? Give reasons : $4x^2 - 8\sqrt{x} + 3 = 0$
4. The 8th term of an AP is 35 and its 102nd term is 317. Find the AP.
5. Find the sum of all odd integers between 2 and 100 divisible by 3.
6. Without actual division state if the following rational numbers will have terminating or non terminating repeating decimal expansion: $\frac{32}{1250}$

Section – B

7. Solve for x and y

$$\frac{x+1}{2} + \frac{y-1}{3} = 8, \frac{x-1}{3} + \frac{y+1}{2} = 9$$

8. In an AP the sum of its first n terms is $n^2 + 2n$ Find its 18th term.

SECTION – C

9. Using division algorithm, find the HCF of three numbers 240, 672, and 768.

10. For what values of a and b the following system of linear equations have an infinite number of solutions. $2x + 3y = 7$, $(a - b)x + (a + b)y = 3a + b - 2$.
11. For what values of K does the quadratic equation $9x^2 + 8kx + 16 = 0$ have equal roots.
12. A two digit number is such that product of its digit is 35 when 18 is added to the number, the digits interchange their places find the number.
13. How many terms of the AP. 72, 69, 66,.....make the sum 897 explain the double answer.
14. If the sum of the squares of zeros of the polynomial $6x^2 + x + k$ is find value of k .
15. Write prime factorization of 103428 by using the factorization tree.

SECTION - D

16. Solve graphically the following system of linear equations. $3x + y + 1 = 0$, $2x - 3y + 8 = 0$ Shade the area of region bounded by the lines and x-axis.
17. A passenger train takes 2 hours less for a journey of 300 km, if its speed is increased by 5km/hr from its original speed find the original speed of the train.
18. Find the other zero's of the polynomial $x^4 - 5x^3 + 2x^2 + 10x - 8$ if it is given that two of its zero are $-\sqrt{2}$ and $\sqrt{2}$.