

Time: 2 Hour

Total Marks: 60

Class : X

Subject : Mathematics - I

MCQ SINGLE CORRECT

(Attempt any 5)

1. What is the value of D_x for the simultaneous equations $3x + 2y + 11 = 0$ and $7x - 4y = 9$?
(a) 26 (b) -26 (c) 62 (d) -62
2. The sequence -5, 5, 15, 25,
(a) is not an A.P. (b) is an A.P., because $d = 10$ (c) is an A.P. because $d = 5$ (d) is an A.P., because $d = -10$
3. For an A.P., if $a = 3.5$, $d = 0$, $n = 101$, then $t_n =$
(a) 0 (b) 3.5 (c) 103.5 (d) 104.5
4. Which of the following is not a measure of the central tendency?
(a) Mean (b) Median (c) Mode (d) Standard deviation
5. What is the market value of a share with face value ` 10 at a discount of ` 2?
(a) ` 2 (b) ` 8 (c) ` 12 (d) ` 10
6. For drawing the graph of $5x + 2y = 16$, if $x = 2$, what is the value of y ?
(a) $\frac{11}{2}$ (b) 8 (c) 3 (d) $\frac{14}{5}$

VERY SHORT DESC

(Attempt any 4)

7. Find the values of the following determinants:
$$\begin{vmatrix} 5 & 3 \\ -7 & 0 \end{vmatrix}$$
8. Write the correct number in the given boxes from the following A.P.
70, 60, 50, 40, . . .
9. Write any two quadratic equations. (OEQ)
10. Write an A.P. whose first term is a and common difference is d in each of the following:
 $a = -3, d = 0$

All The Best!!!

11. 'Pawan Medical' supplies medicines. On some medicines the rate of GST is 12%, then what is the rate of CGST and SGST?
12. Which of the following sequences is an A.P.? If they are A.P., find the common difference.
 $-10, -6, -2, 2, \dots$

SHORT DESC - 25 WORDS

(Attempt any 3)

13. The time required for students to do a science experiment and the number of students is shown in the following grouped frequency distribution table. Show the information by a histogram and also by a frequency polygon.

Time required for experiment (minutes)	20-22	22-24	24-26	26-28	28-30	30-32
Number of students	8	16	22	18	14	12

14. Write the following quadratic equations in the form $ax^2 + bx + c = 0$. Write the values of a, b, c for each equation.

$$x^2 - 9 = 13$$

15. In a handloom factory, different workers take different periods of time to weave a saree. The number of workers and their required periods are given below. Present the information by a frequency polygon.

Number of days	8-10	10-12	12-14	14-16	16-18	18-20
Number of workers	5	16	30	40	35	14

16. On an environment day, students in a school planted 120 trees under plantation project. The information regarding the project is shown in the following table. Show it by a pie diagram.

Tree name	Karanj	Behada	Arjun	Bakul	Kadunimb
Number of trees	20	28	24	22	26

17. Solve the following simultaneous equations using Cramer's rule or Method:
 $3x - 4y = 10$
 $4x + 3y = 5$

MED DESC - 50 WORDS

(Attempt any 2)

18. Find the 24th term of the A.P 12, 16, 20, 24, . . .
19. Solve the following simultaneous equation using Graphical method:
 $2x - 3y = 4$
 $3y - x = 4$

20. Prepare Business to Consumer (B2C) tax invoice using given information. Write the name of the supplier, address, state, Date, Invoice number, GSTIN, etc. as per your choice. Supplier: M/S _____ Address _____ State _____ Date _____ Invoice No. _____ GSTIN _____
 Particulars-Rate of Mobile Battery - ` 200 Rate of GST 12% HSN 8507, 1 pc.
 Rate of Head phone - ` 750 Rate of GST 18% HSN 8518, 1 pc.
 GST for Mobile battery 12%
 The rate of CGST = SGST = 6%
 GST for Headphone 18%
 The rate of CGST = SGST = 9%

LONG DESC - 100 WORDS

(Attempt any 2)

21. Solve the following quadratic equation by completing square method:

$$2y^2 + 9y + 10 = 0$$

22. The sum of a two-digit number and the number obtained by interchanging the digits is 143. If the digit at the units place is 3 more than the digit at the tens place, find the original number.
23. The production of electric bulbs in different factories is shown in the following table. Find the median of the production.

Number of bulbs produced (Thousands)	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Number of factories	12	35	20	15	8	7	8