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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 $7x - 4y = 0$	1.	What is the value of D	for the simultaneous	equations 3x + 2	2v + 11 = 0 and $7x - 4$	v = 9?
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- (a) 26
- **(b)** -26

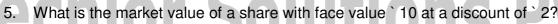
- **(c)** 62
- (d) -62

- (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

- (a) Mean (b) Median
- (c) Mode
- (d) Standard deviation



- (b) '8
 - (c) 12

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:

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...

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:

$$3x - 4y = 104x + 3y = 5$$

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

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