

**IX****MIND CURVE** Mid Term Maths Test Series 2025-26**Test 01**

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S no	Syllabus Covered	Chapters(In Half Yearly)	Marking Scheme
1.	Chapter 1	Number System	20
2.	Chapter 2	Polynomials	20

Note: Students/Teachers can refer to this Sample Paper for practice purpose. However, students may find or experience different exam pattern as syllabus or marking scheme may vary school to school.

MM:40**GENERAL INSTRUCTIONS****Time 1.5Hrs****READ CAREFULLY ALL INSTRUCTIONS**

1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 10 MCQs carrying 1 mark each
3. Section B has 3 questions carrying 02 marks each.
4. Section C has 2 questions carrying 03 marks each.
5. Section D has 2 case based integrated units of assessment (04 marks each) with sub parts of the values of 1, 1 and 2 marks each respectively.
6. Section E has 2 questions carrying 05 marks each
7. All Questions are compulsory.
8. This paper consists of 19 questions.
 - a. Write your answers neatly and legibly.
 - b. Ensure you have not left any question unanswered

SECTION – A**Questions 1 to 10 carry 1 mark each**

1. Out of the following, the irrational number is

- (a) $\sqrt{16} - 4$ (b) $(3 - \sqrt{3})(3 + \sqrt{3})$
 (c) $3 + \sqrt{5}$ (d) $-\sqrt{25}$

2. To rationalize the denominator of $\frac{1}{\sqrt{a}-b}$, we multiply the expression by

- (a) $\frac{1}{\sqrt{a}+b}$ (b) $\frac{1}{\sqrt{a}-b}$ (c) $\frac{\sqrt{a}-b}{\sqrt{a}-b}$ (d) $\frac{\sqrt{a}+b}{\sqrt{a}+b}$

3. $\sqrt{3}$ is a polynomial of degree

- (a) 2 (b) 0 (c) $\frac{1}{2}$ (d) 1

4. The value of n for which $\sqrt{n}$ be a rational number is

- (a) 2 (b) 4 (c) 3 (d) 5

5. It is given that m and n are two natural numbers and $m^n = 32$, then n^{mn} is

- (a) 5^2 (b) 5^3 (c) 5^{10} (d) 5^{12}

6. $\frac{3\sqrt{12}}{6\sqrt{27}}$ equal is

- (a) $\frac{1}{2}$ (b) $\sqrt{3}$ (c) $\frac{1}{3}$ (d) $\sqrt{2}$
7. If $\left(\frac{3}{4}\right)^6 \times \left(\frac{16}{9}\right)^5 = \left(\frac{4}{3}\right)^{x+2}$, then the value of x is
 (a) 4 (b) -2 (c) 2 (d) 6
8. Identify the polynomial
 (a) $x^{-2} + x^{-1} + 5$ (b) $x^2 + 5\sqrt{x} + 7$
 (c) $\frac{1}{x^3} + 7$ (d) $3x^2 + 7$
9. The value of the polynomial $7x^4 + 3x^2 - 4$, when $x = -2$ is :
 (a) 100 (b) 110 (c) 120 (d) 130
10. If $x + 1$ is a factor of the polynomial $x^2 + \sqrt{2}kx$, then the value of k is :
 (a) $\frac{1}{2}$ (b) $\sqrt{3}$ (c) $\frac{1}{3}$ (d) $\sqrt{2}$

SECTION – B
Questions 11 to 13 carry 2 mark each

11. Evaluate $\sqrt[3]{(343)^{-2}}$
- 12(A). If $81y^2 - k = \left(9y + \frac{1}{2}\right)\left(9y - \frac{1}{2}\right)$, then find the value of k
Or
- 12(B). Show that $p + 1$ is a factor of $p^{50} - 1$ but not of $p^{51} - 1$
13. If -1 is a zero of the polynomial $p(x) = ax^3 - x^2 + x + 4$, find the value of a.

SECTION – C
Questions 14 to 15 carry 3 mark each.

- 14(A). If $x = 1 - \sqrt{2}$, find the value of $\left(x - \frac{1}{x}\right)^2$.
Or
- 14(B). If $x - y = 4$ and $xy = 21$, find the value of $x^3 - y^3$.
- 15(A). Find the value of a and b in each of the following : $\frac{\sqrt{3}-1}{\sqrt{3}+1} = a + b\sqrt{3}$
Or
- 15(B). Simplify : $\frac{3}{(216)^{\frac{-2}{3}}} + \frac{1}{(256)^{\frac{-3}{4}}} + \frac{2}{(243)^{\frac{-1}{5}}}$

SECTION – D
Questions 16 to 17 carry 4 mark each

16. An object is thrown or projected into the air, subject to only the acceleration of gravity is called projectile and its path is called trajectory. This curved path was shown by Galileo to be a parabola. Parabola is represented by a polynomial. If the polynomial to represent the distance covered is $p(t) = t^4 + 3t^2 - 4$ in 't' sec
 (i) What is the degree of the polynomial ?
 (ii) Find the height of the projectile 4 seconds after it was launched ?
 (iii) (a) Factorise $p(t)$
Or
 (iii) (b) If $t-1$ is one factor of $p(t)$ find the other factor of $p(t)$
17. Two friends Luv and Vicky start a business together. They decided to share their capitals depending upon the variable expenditure. The capital of the two partners is given by polynomials $6x^2 + 11x - 35$ which is the product of their individual share factors. On the basis of the above, answer the following.
 (i) Find the contribution of Luv and Vicky separately.
 (ii) (a) Find the value of x, if share are equal.

Or

(ii) (b) Find x , if sum of share of both is 102.

SECTION – E

Questions 18 to 19 carry 5 mark each.

18. When the polynomials $x^3 + 2x^2 - 5ax - 7$ and $x^3 + ax^2 - 12x + 6$ are divided by $(x + 1)$ and $(x - 2)$ respectively, leaves remainder R_1 and R_2 and $2R_1 + R_2 = 6$, find the value of a

19. Factorize

(i) $a^3 - 2\sqrt{2}b^3$.

(ii) $2\sqrt{2}a^3 + 8b^3 - 27c^3 + 18\sqrt{2}abc$

(iii) $a^3 - b^3 + 1 + 3ab$

-----Paper End-----



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