

STATE LEVEL EXAM (2025 – 2026)

 <p data-bbox="502 376 1045 465">MATHS MARATHON Competition For Excellence</p>	<p data-bbox="1177 286 1359 347">CLASS</p> <p data-bbox="1241 392 1295 465">8</p>
<p data-bbox="162 577 545 622">Total Questions : 100</p> <p data-bbox="646 577 960 622">Total Marks : 100</p> <p data-bbox="1050 577 1375 622">Time : 80 Minutes</p>	

INSTRUCTIONS TO THE STUDENT'S

1. Please do not open this question paper unless you are instructed.
2. **Don't write anything on question paper, you can carry blank page for rough calculations**
3. Additional 5 minutes will be given to the candidates for filling up the student's details before the start of the competition.
4. The paper consists of 5 different chapters of the textbook.
5. All questions are compulsory and consist of equal marks.
6. Each question is carrying 1 mark; there is no negative marking.
7. There is only one correct answer, hence mark one answer only.
8. **Darken the circle on OMR sheet with blue/black ball pen only.**
9. **Return the answer sheet along with the question paper to the supervisor at the end of the exam.**

Name - _____

SCHOOL - _____

ROLL NO - _____ CLASS - _____

SECTION 1 - DIVISION OF POLYNOMIALS

1. Which of the following represents $-24x^5y^3 / 8x^2y$?
 A) $-3x^2y^2$ B) $-3x^3y^2$ C) $-3x^3y$
2. Simplify $60m^9n^4 / 12m^5n^2$:
 A) $5m^4n$ B) $5m^3n^2$ C) $5m^4n^2$
3. Divide $3x^3 + 2x^2 - x - 4$ by $x + 1$ and find the quotient:
 A) $3x^2 - x$ B) $3x^2 + 1$ C) $3x^2 - 1$
4. Simplify $(15x^4 - 10x^3 + 5x^2) \div 5x^2$:
 A) $3x^2 - 2x + 5$ B) $3x^3 - 2x^2 + 1$ C) $3x^2 - 2x + 1$
5. Simplify $(16x^3y^2 - 8x^2y + 4xy^3) \div 4xy$:
 A) $4x^2y + 2x + y^3$ B) $4x^2y - 2x + y^2$ C) $4x^2 + 2x + y^2$
6. Simplify $(15a^3b^2 - 10a^2b + 5ab^3) \div 5ab$:
 A) $3a^2 + 2a - b^2$ B) $3a^2b + 2a - b^2$ C) $3a^2b - 2a + b^2$
7. Simplify $(45p^7q^6 + 30p^6q^5 - 15p^5q^4) \div 15p^5q^4$:
 A) $3p^2q^2 + 2p - 1$ B) $3p^2q^2 + 2pq - 1$ C) $3p^2q^2 + 2p - 1q^2$
8. Simplify $(81x^8y^5 + 54x^6y^3 - 27x^4y) \div 27x^4y$:
 A) $3x^4y^4 + 2x^2y^2 + 1$ B) $3x^4y^4 + 2x^2y^3 - 1$ C) $3x^4y^4 + 2x^2y^2 - 1$
9. Divide $x^4 - 4x^3 + 5x^2 - 2x + 3$ by $x - 1$ and find the quotient:
 A) $x^3 - 3x^2 + 2x$ B) $x^3 - 4x^2 + 5x$ C) $x^3 - 5x^2 + 4x$
10. Divide $5x^4 - 6x^3 + 4x^2 - 7x + 9$ by $x - 1$ and find the quotient:
 A) $5x^3 - 6x^2 + 4x - 7$ B) $5x^3 - x^2 + 3x - 4$ C) $5x^3 - x^2 + 5x - 5$
11. Divide $5x^4 + 6x^3 - 3x^2 + 2x - 1$ by $x - 1$ and find the quotient:
 A) $5x^3 + x^2 - 2x + 1$ B) $5x^3 + 6x^2 - x + 1$ C) $5x^3 + 11x^2 + 8x + 10$
12. Divide $3x^3 + 5x^2 - x - 7$ by $x + 3$ and find the quotient:
 A) $3x^2 - 4x - 5$ B) $3x^2 - 4x + 11$ C) $3x^2 + 5x + 1$
13. Divide $6x^2 + 13x + 6$ by $2x + 3$. The quotient is:
 A) $3x + 2$ B) $3x + 3$ C) $2x + 3$
14. Divide $x^2 - 9$ by $x - 3$. The quotient is:
 A) $x - 3$ B) $x + 3$ C) $x^2 + 3$
15. When $4x^3 + 8x^2 + x - 2$ is divided by $x + 2$, the remainder is:
 A) 4 B) -2 C) -4
16. When $3x^3 + 5x^2 - 4x + 7$ is divided by $x + 1$, the remainder is:
 A) 13 B) 12 C) 4
17. Divide $10x^2 + 7x + 1$ by $5x + 1$. The quotient is:
 A) $2x + 1$ B) $2x - 1$ C) $x + 2$

18. Divide $x^3 - 1$ by $x - 1$. The quotient is:
A) $x^2 + 1$ B) $x^2 + x + 1$ C) $x^2 - x + 1$
19. Divide $6x^2 + x - 2$ by $3x + 2$. The quotient is:
A) $2x - 1$ B) $2x + 1$ C) $x - 2$
20. Divide $4x^3 + x^2 - 9x - 6$ by $x + 2$. The remainder is:
A) 0 B) -16 C) 16

SECTION 2 - EQUATIONS IN ONE VARIABLE

21. Solve: $x/4 + 3 = 7$
A) $x = 12$ B) $x = 20$ C) $x = 16$
22. Solve: $4x + 6 = 18$
A) $x = 2$ B) $x = 3$ C) $x = 4$
23. Solve: $9x - 5 = 4x + 20$
A) $x = 3$ B) $x = 4$ C) $x = 5$
24. Solve: $5x + 4 = 3(2x - 1)$
A) $x = 7$ B) $x = 5$ C) $x = 4$
25. Solve: $3(2x + 1) - 4(x - 3) = 5x + 3$
A) $x = 6$ B) $x = 4$ C) $x = 10$
26. Solve: $(2x - 1)/3 - (x + 2)/2 = 1/6$
A) $x = 2$ B) $x = 3$ C) $x = 9$
27. Solve: $2(x - 4) + 3(x + 1) = 6x + 2$
A) $x = -7$ B) $x = -4$ C) $x = 7$
28. Solve: $\frac{x+3}{4} + \frac{x-1}{2} = 7$
A) 5 B) 7 C) 9
29. Solve: $3(2x - 4) - 4 = 2(2x - 8)$
A) 2 B) 0 C) 4
30. Solve: $3(2x - 4) - 4 = 2(2x - 8)$
A) 2 B) 1 C) 0
31. Solve: $\frac{5x-1}{3} - \frac{2x+4}{6} = 2$
A) $4/2$ B) $5/3$ C) $9/4$
32. Solve: $(3(x - 2))/4 = (2(x + 3))/3$.
A) $x = 22$ B) $x = 42$ C) $x = 78$
33. A train covers 60 km. If its speed is reduced by 10 km/h, it takes 1 hour more. Find original speed
A) 20 km/h B) 30 km/h C) 40 km/h
34. If 5 is subtracted from a number and result is divided by 3, result is 4. Find the number.
A) 17 B) 19 C) 15

35. Joseph's weight is 2 times the weight of John. The sum is 63 kg. What is Joseph's weight?
 A) 42 kg B) 43 kg C) 44 kg
36. A man is twice as old as his son. The sum of their ages is 72. Find the son's age.
 A) 48 B) 36 C) 24
37. 5 times a number increased by 7 equals 3 times the number increased by 23. Find the number.
 A) 6 B) 8 C) 10
38. The sum of two numbers is ₹60. One number is ₹8 more than the other. Find the larger number.
 A) ₹32 B) ₹34 C) ₹36
39. A number is such that when 12 is added to it, the result is three times the number. Find the number.
 A) 4.5 B) 5 C) 6
40. If 6 times a number is reduced by 15, result is 3 times the number increased by 6. Find number.
 A) 7 B) 8 C) 9

SECTION 3 - CONGRUENCE OF TRIANGLES / COMPOUND INTEREST

41. If two triangles have two corresponding angles equal, then they are:
 A) Congruent B) Similar C) Neither
42. In $\triangle ABC$ and $\triangle DEF$, if $\angle A = \angle D$, $\angle B = \angle E$, and $AB = DE$, then triangles are congruent by:
 A) AAS criterion B) RHS criterion C) ASA criterion
43. In a pair of congruent triangles, the ratio of their corresponding sides is:
 A) 1:2 B) 2:1 C) 1:1
44. In triangles ABC and PQR, $AB = PQ$, $BC = QR$, and $\angle B = \angle Q$. The triangles are congruent by:
 A) ASA B) SAS C) SSS
45. If $\triangle ABC \cong \triangle PQR$, which of the following pairs of angles must be equal?
 A) $\angle C$ and $\angle Q$ B) $\angle B$ and $\angle R$ C) $\angle A$ and $\angle P$
46. Which of the following is **NOT** a criterion for congruence of triangles?
 A) SSA B) SAS C) ASA
47. Which of the following properties is preserved in congruent triangles?
 A) Only the angles B) Only the sides C) Both sides and angles
48. For a given principal and rate, compound interest is always:
 A) Less than simple interest B) Equal to simple interest C) More than simple interest
49. If the compound interest on ₹12,000 for 2 years is ₹1,230, the ROI per annum is :
 A) 5% B) 6% C) 8%
50. What is the compound interest on ₹15,000 at 5% per annum for 2 years?
 A) ₹1,537.50 B) ₹1,525 C) ₹1,550
51. The compound interest on ₹15,000 at 10% p.a. compounded annually for 3 years is:
 A) ₹4,650 B) ₹4,965 C) ₹5,250

52. Sum of ₹40,000 is invested at 6% p.a compounded half-yearly. Find amount after 1 year?
A) ₹42,432 B) ₹42,436 C) ₹42,500
53. A sum becomes 4 times in 2 years at compound interest. Find the annual rate of interest.
A) 50% B) 75% C) 100%
54. A sum becomes ₹15,000 in 2 years & ₹16,050 in 3 years under compound interest. Find the Rate of Interest ?
A) 6% B) 7% C) 8%
55. Find the compound interest on ₹5,000 at 10% p.a. for 2 years, compounded annually.
A) ₹1,000 B) ₹ 1,100 C) ₹1,050
56. What will be the amount on ₹4,000 at 5% p.a. for 2 years, compounded annually?
A) ₹4,400 B) ₹4,410 C) ₹4,420
57. Find the compound interest on ₹10,000 at 10% p.a. for 1 year, compounded annually.
A) ₹1,000 B) ₹1,100 C) ₹900
58. If ₹12,100 is the amount after 2 years at 10% p.a., compounded annually, find the principal.
A) ₹10,000 B) ₹11,000 C) ₹9,000
59. What will be the amount after 2 years on ₹8,000 at 12.5% p.a., compounded annually?
A) ₹10,000 B) ₹10,125 C) ₹10,500
60. The compound interest on a sum for 2 years at 10% p.a. is ₹1,050. Find the principal.
A) ₹5,000 B) ₹10,000 C) ₹10,500

SECTION 4 - AREA

61. A parallelogram has a height of 5 cm and a base of 20 cm. Find its area.
A) 100 sq.cm B) 120 sq.cm C) 150 sq.cm
62. The area of a parallelogram is 120 sq.cm, and its base is 15 cm. What is the height?
A) 6 cm B) 8 cm C) 10 cm
63. The area of a rhombus is 84 sq.cm, and one diagonal is 14 cm. Find length of the other diagonal.
A) 10 cm B) 14 cm C) 12 cm
64. If the area of a rhombus is 200 sq.cm and one diagonal is 20 cm, find the other diagonal.
A) 15 cm B) 20 cm C) 25 cm
65. A rhombus-shaped flag has diagonals measuring 6 m and 8 m. What is the area of the flag?
A) 20 sq.m B) 24 sq.m C) 28 sq.m
66. A trapezium has parallel sides measuring 10 cm and 14 cm, and its height is 8 cm. What is its area?
A) 96 sq.cm B) 120 sq.cm C) 160 sq.cm
67. The parallel sides of a trapezium are 10 m and 6 m, and its height is 5 m. Calculate area.
A) 35 sq.m B) 40 sq.m C) 50 sq.m

68. A triangle has sides measuring 13 cm, 14 cm, and 15 cm. Find its area.
A) 100 sq.cm B) 90 sq.cm C) 84 sq.cm
69. The sides of a triangle are 13 m, 14 m, and 15 m. Calculate its area.
A) 80 sq.m B) 84 sq.m C) 76 sq.m
70. A triangular piece of land has sides of lengths 40 m, 42 m, and 58 m. Find area of the land.
A) 840 sq.m B) 800 sq.m C) 860 sq.m
71. A triangular plot of land has sides of 7 m, 24 m, and 25 m. What is the area of the plot?
A) 84 sq.m B) 92 sq.m C) 100 sq.m
72. A triangular swimming pool has sides of 12 m, 16 m, and 20 m. Find the area of the pool.
A) 150 sq.m B) 58 sq.m C) 96 sq.m
73. The circumference of a circle is 62.8 cm. What is the radius of the circle? (Use $\pi = 3.14$)
A) 10 cm B) 14 cm C) 12 cm
74. A circular pond has a diameter of 21 m. What is its circumference? (Use $\pi = 22/7$)
A) 60 m B) 66 m C) 65 m
75. Find the area of a rectangle whose perimeter is 40 m and length is 12 m.
A) 96 m² B) 100 m² C) 112 m²
76. Find the area of a rectangle whose perimeter is 48 m and length is 14 m.
A) 96 m² B) 100 m² C) 140 m²
77. The length and breadth of a rectangle are in the ratio 3 : 2. If its area is 150 m², find the length.
A) 12 m B) 15 m C) 18 m
78. The base and height of a triangle are in the ratio 4 : 3. If its area is 96 cm², find its height.
A) 8 cm B) 9 cm C) 12 cm
79. The side of a square is increased by 20%. The percentage increase in its area is:
A) 20% B) 40% C) 44%
80. A rectangular field is 30 m long. If its area is 600 m², find its breadth.
A) 15 m B) 20 m C) 25 m

SECTION 5 – SURFACE AREA AND VOLUME

81. The volume of a cuboid is 240 cm³. If its length is 10 cm and its height is 4 cm, find the width.
A) 5 cm B) 8 cm C) 6 cm
82. A box in the shape of a cuboid has a volume of 2.4 m³ and a base area of 1.2 m². Find its height.
A) 3 m B) 2 m C) 1.5 m
83. The volume of a cuboid is 240 m³, and two of its dimensions are 4 m and 5 m. Find the third dimension.
A) 12 m B) 15 m C) 16 m
84. A rectangular container with a base area of 150 cm² has a height of 10 cm. What is its volume?
A) 1000 cm³ B) 1500 cm³ C) 1200 cm³

ANSWER

QUE		QUE		QUE		QUE		QUE	
1	B	21	C	41	B	61	A	81	C
2	C	22	B	42	C	62	B	82	B
3	A	23	C	43	C	63	C	83	A
4	C	24	A	44	B	64	B	84	B
5	B	25	B	45	C	65	B	85	C
6	C	26	C	46	A	66	A	86	C
7	B	27	A	47	C	67	B	87	B
8	C	28	C	48	C	68	C	88	C
9	A	29	B	49	A	69	B	89	A
10	B	30	C	50	A	70	A	90	B
11	C	31	C	51	B	71	A	91	C
12	B	32	B	52	B	72	C	92	A
13	A	33	B	53	C	73	A	93	B
14	B	34	A	54	B	74	B	94	B
15	C	35	A	55	C	75	A	95	A
16	A	36	C	56	B	76	C	96	B
17	A	37	B	57	A	77	B	97	A
18	B	38	B	58	A	78	C	98	C
19	A	39	C	59	B	79	C	99	A
20	B	40	A	60	A	80	B	100	A