



Final Term Maths **MIND CURVE** Practice Paper Series 2024-25

PRACTICE PAPER 04

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S no	Syllabus Covered	Marking Scheme
1.	Unit 1 Number system	10
2.	Unit 2 Algebra	20
3.	Unit 3 Coordinate Geometry	04
4.	Unit 4 Geometry	27
5.	Unit – 5 Mensuration	13
6.	Unit – 6 Statistics & Probability	06

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:80

GENERAL INSTRUCTIONS

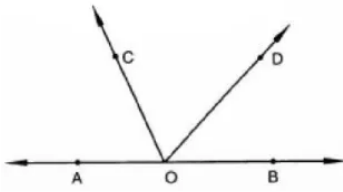
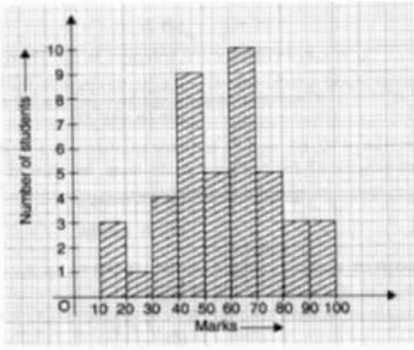
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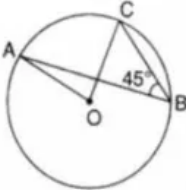
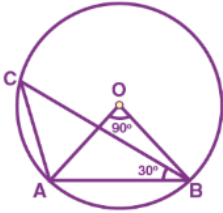
READ CAREFULLY ALL INSTRUCTIONS

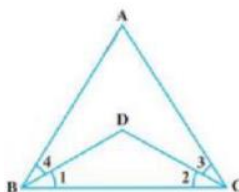
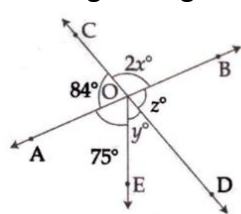
1. This Question Paper has 5 Sections A, B, C, D and E.
2. Section A has 20 MCQs carrying 1 mark each
3. Section B has 5 questions carrying 02 marks each.
4. Section C has 6 questions carrying 03 marks each.
5. Section D has 4 questions carrying 05 marks each.
6. Section E has 3 case based integrated units of assessment (04 marks each) with sub parts of the values of 1, 1 and 2 marks each respectively.
7. All Questions are compulsory. However, an internal choice in 2 Qs of 5 marks, 2 Qs of 3 marks and 2 Questions of 2 marks has been provided. An internal choice has been provided in the 2marks questions of Section E
8. Draw neat figures wherever required. Take $\pi = 22/7$ wherever required if not stated.
9. This paper consists of 38 questions.
 - a. Write your answers neatly and legibly.
 - b. Ensure you have not left any question unanswered

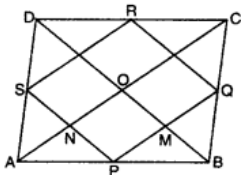
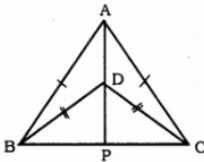
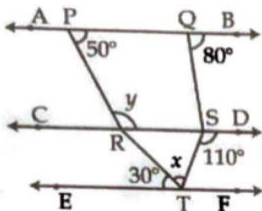
Section A

Consists of 20 questions of 1 mark each.

1	The simplest form of $0.\overline{57}$ is : (a) $\frac{26}{45}$ (b) $\frac{57}{99}$ (c) $\frac{57}{100}$ (d) none of these	1
2	'Lines are parallel if they do not intersect' is stated in the form of: (a) an axiom (b) a definition (c) a postulate (d) a proof	1
3	The perpendicular distance of the point P(-2, -3) from the y-axis is (a) 3 units (b) -2 (c) 2 units (d) -3	1
4	If $10^{2y} = 25$, then 10^{-y} equals (a) $\frac{-1}{5}$ (b) $\frac{1}{5}$ (c) $\frac{1}{625}$ (d) $\frac{1}{50}$	1
5	The equation $x = 7$ in two variables can be written as (a) $1.x + 1.y = 7$ (b) $1.x + 0.y = 7$ (c) $0.x + 1.y = 7$ (d) $0.x + 0.y = 7$	1
6	In fig. AOB is a straight line. If $\angle AOC + \angle BOD = 85^\circ$, then $\angle COD =$  (a) 100° (b) 85° (c) 90° (d) 95°	1
7	Which of the following is a polynomial? (a) $x^2 - 5x + 4\sqrt{x} + 3$ (b) $x^{3/2} - x + x^{1/2} + 1$ (c) $\sqrt{x} + \frac{1}{\sqrt{x}}$ (d) $\sqrt{2}x^2 - 3\sqrt{3}x + \sqrt{6}$	1
8	In $\triangle ABC$, the bisectors of $\angle ABC$ and $\angle BCA$ intersect each other at O. The measure of $\angle BOC$ is : (a) $90^\circ + \angle A$ (b) $90^\circ + \angle A / 2$ (c) $180^\circ - \angle A$ (d) $90^\circ - \angle A / 2$	1
9	In the given graph, the number of student who scored 60 or more marks is  (a) 22 (b) 20 (c) 21 (d) 19	1
10	If $\triangle PQR \cong \triangle EFD$, then $\angle E =$ (a) $\angle P$ (b) $\angle R$ (c) $\angle Q$ (d) none of these	1
11	The base of an isosceles triangle is 6 cm and each of its equal sides is 5 cm. The height of the triangle is : (a) $\sqrt{11}$ cm (b) 8 cm (c) $\sqrt{30}$ cm (d) 4cm	1
12	In the given figure, if $\angle ABC = 45^\circ$, then $\angle AOC =$	1

		
	(a) 75° (b) 45° (c) 90° (d) 60°	
13	PQRS is a cyclic quadrilateral such that PR is a diameter of the circle. If $\angle QPR = 67^\circ$ and $\angle SPR = 72^\circ$, then $\angle QRS =$ (a) 23° (b) 41° (c) 67° (d) 18°	1
14	In the given figure, $\angle AOB = 90^\circ$ and $\angle ABC = 30^\circ$, then $\angle CAO$ is equal to: 	1
	(a) 30° (b) 45° (c) 60° (d) 90°	
15	Volume of hollow cylinder (a) $\pi(R^2 - r^2)h$ (b) $\pi R^2 h$ (c) $\pi r^2 h$ (d) $\pi r^2(h_1 - h_2)$	1
16	In a quadrilateral ABCD, AO and BO are the bisectors of $\angle A$ and $\angle B$ respectively, $\angle C = 70^\circ$ and $\angle D = 30^\circ$. Then $\angle AOB = ?$ (a) 100° (b) 50° (c) 80° (d) 40°	1
17	In a cylinder, radius is doubled and height is halved, curved surface area will be (a) halved (b) doubled (c) Same (d) four time	1
18	If $x - 2$ is a factor of $x^2 + 3ax - 2a$, then $a =$ (a) 1 (b) -1 (c) 2 (d) -2	1
19	Assertion (A) : Degree of $(x^2 - 2)(x - 3)(x - 7)$. Reason (R) : Polynomial of degree 4 is called quadrinomial. (a) Both assertion and reason are true and reason is the correct explanation of assertion (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true.	1
20	Assertion (A) : If the diagonals of a parallelogram ABCD are equal, then $\angle ABC = 90^\circ$ Reason (R) : If the diagonals of a parallelogram are equal, it becomes a rectangle. (a) Both assertion and reason are true and reason is the correct explanation of assertion (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true.	1
Section B Consists of 5 questions of 2 marks each		
21	In the given figure, if $AC = BD$, then prove that $AB = CD$.  or Solve the equation $u - 5 = 15$ and state the axiom that you use here.	2

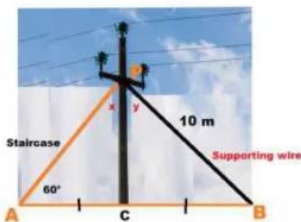
22	Find the value of k, for which the polynomial x^3-3x^2+3x+k has 3 as its zero.	2														
23	Prove the exterior angle formed by producing a side of a cyclic quadrilateral is equal to interior opposite angles.	2														
24	In the given figure, we have $\angle ABC = \angle ACB$, $\angle 4 = \angle 3$. Show that $\angle 1 = \angle 2$ 	2														
25	In the given figure , $\triangle ABC$ is an equilateral . Find  (i) $\angle ADC$ (ii) $\angle AEC$ Or If two isosceles triangles have a common base, prove that the line joining their vertices bisects them at right angles	2														
Section C Consists of 5 questions of 3 marks each.																
26	Draw the graph of the linear equation $3x+2y=6$.At what points,the graph cut the x axis and y axis .	3														
27	ABC is a triangle and D is the mid point of BC . The perpendicular from D to AB and AC are equal . Prove that triangle is isosceles . or If two parallel lines are intersected by a transversal, then prove that the bisectors of the interior angles on both sides of transversal from a rectangle	3														
28	Show that the points A(1 , -1) ,B(2,6) and C (0,8) lie on the graph of the linear equation $7x-y=8$.	3														
29	Find the value of x and y $\frac{\sqrt{11}-\sqrt{7}}{\sqrt{11}+\sqrt{7}}=a-b\sqrt{77}$ or Represent $(2+\sqrt{3})$ on number line .	3														
30	In the given figure ,lines AB and CD intersect each other at O.Find the values of x ,y,and z . 	3														
31	Given below are the seats won by different political parties in the polling outcome of a state assembly elections: <table border="1" data-bbox="204 1879 1139 1980"><tr><td>Political party</td><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td></tr><tr><td>Seats won</td><td>65</td><td>52</td><td>34</td><td>28</td><td>10</td><td>31</td></tr></table> Draw a bar graph to represent the polling results.	Political party	A	B	C	D	E	F	Seats won	65	52	34	28	10	31	3
Political party	A	B	C	D	E	F										
Seats won	65	52	34	28	10	31										
Section D Consists of 4 questions of 5 marks each.																

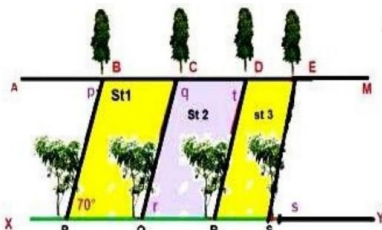
32	The base of a triangular field is three times its altitude. If the cost of sowing the field at Rs. 58 per hectare is Rs 783, find its base and height.	5
33	(a) Simplify : $\frac{2}{\sqrt{5}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{2}} - \frac{3}{\sqrt{5}+\sqrt{3}}$. (b) Express $0.12\bar{3}$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.	5
34	Show that the diagonals of a quadrilateral ABCD are perpendicular to each other. Show that the quadrilateral formed by joining the mid-points of its sides is a rectangle.  or Show that ABCD is a quadrilateral in which the bisectors of $\angle A$ and $\angle C$ meet DC produced at Y and BA produced at X respectively. Prove that $\angle X + \angle Y = \frac{1}{2}(\angle A + \angle C)$.	5
35	$\triangle ABC$ and $\triangle DBC$ are two isosceles triangles on the same base BC and vertices A and D are on the same side of BC at P, Show that  (i) $\triangle ABD \cong \triangle ACD$ (ii) $\triangle ABP \cong \triangle ACP$ (iii) AP bisect $\angle A$ as well as $\angle D$. (iv) AP is the perpendicular bisector of BC. or In the given figure, if $AB \parallel CD \parallel EF$, find the value $(y - x) : (y + x)$. 	5

Section E

CASE BASE STUDY

Consists of 3 questions of 4 marks each.

36	As shown in the village of Surya there was a big pole PC. This pole was tied with a strong wire of 10 m length. Once there was a big spark on this pole, thus wires got damaged very badly. Any small fault was usually repaired with the help of a rope which normal board electricians were carrying on bicycles. This time electrician need a staircase of 10 m so that it can reach at point P on the pole and this should make 60° with line AC.  Based on the above equation answer the following :	
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	(i) Show that $\triangle APC$ and $\triangle BPC$ are congruent. (ii) Find the value of $\angle x$. (iii) If height of the pole is 8m, find the Area of $\triangle PBC$? or State the property of triangle PAB, If $AC = 10$ m and find its Area.	1 1 2
37	The autorickshaw fare in a city is charged Rs 10 for the first kilometre and @Rs 4 per km kilometer for subsequent distance covered .  (i) Write the linear equation to express the above statement . (ii) Find the total fare to be paid for distance 20 km. (iii) Find the distance travelled by Sukhi if she paid Rs 158 after reaching her destination . or Write a linear equation whose solution is (9 ,4) .	1 1 2
38	There were two parallel roads AM and XY in New Delhi .Due to increasing pollution ,MCD planned to get trees planted on these roads. On the road AM , plants of Ashoka were planted by one company .While on the road XY mango trees were planted by another company. Between these roads three streets St 1 , St 2 and St 3 parallel to each other were situated .During the survey , $\angle BPQ$ was measured to be 70° and other angles p,q,r,s and t were also measured .  (i) What is the measure $\angle p$? (ii) What is the measure $\angle q$? (iii) Find the value of $\left(\frac{\angle p + \angle q + \angle r}{5} \right)$. Or What is the value $\{ 4p - (q + r) - (r - s) \}$.	1 1 2

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