SHRI GULABRAO ESHWARA KHANDVE EDUCATIONAL FOUNDATION

JAGADGURU INTERNATIONAL SCHOOL, LOHEGAON, PUNE 411047

PERIODIC TEST - II (A.Y. 2025-2026)

Name of Student: _____ **Subject: MATHS(041)**

Class & Div.: X A **Date: 13/10/ 2025**

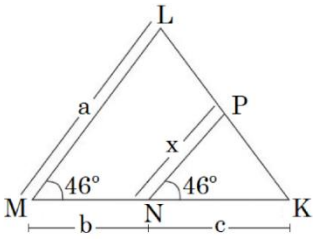
Roll No. : _____ **Time.: 90 Minutes**

Marks Obtained	
Total Marks :-	40

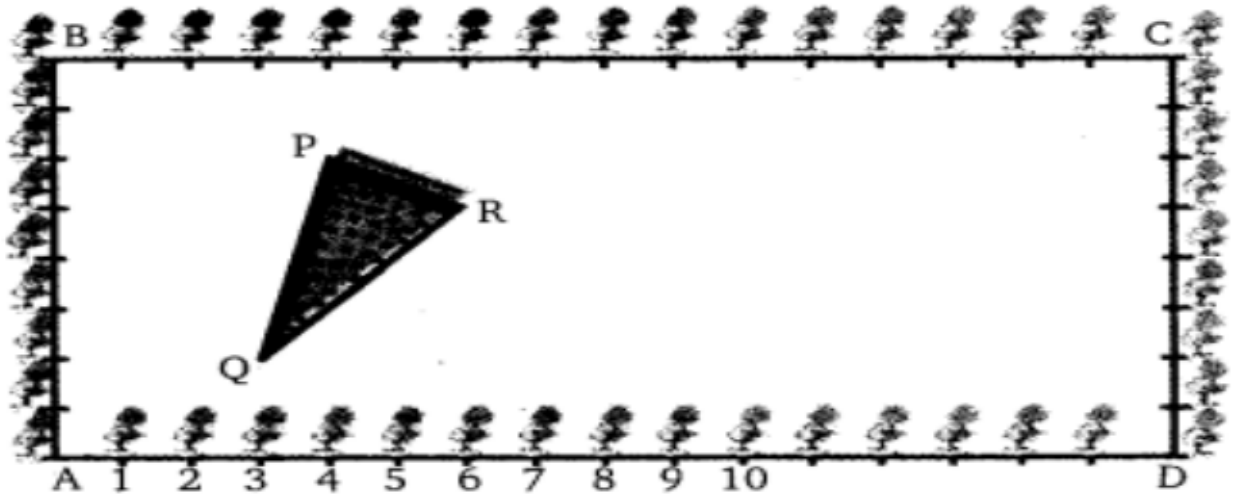
_____ _____ _____

Invigilator **Examiner** **Moderator**

(SET B)

Sr. No	Questions	Marks
1	If HCF (2520, 6600) 120 = , LCM (2520, 6600) 252 k = × , then value of k is (A) 1650 (B) 550 (C) 16632000 (D) 155	1
2	The number of real zeroes of the polynomial 3 293x 293 – is (A) 0 (B) 1 (C) 2 (D) 3	1
3	The pair of equations – x+ 2y + 5 = 0 and –3x –6y + 1= 0 has (A) a unique solution (B) exactly two solutions (C) infinitely many solutions (D) no solution	1
4	Which one of the following is a quadratic equation? (A) $x^2+2x+1=(4-x)^2+3$ (B) $-2x^2=(5-x)\left(2x-\frac{5}{2}\right)$ (C) $(k+1)x^2+\frac{3}{2}x=7;\ k=-1$ (D) $2x-x^2=(x-1)^2$	1
5	The sum of first five positive integers divisible by 6, is (A) 180 (B) 90 (C) 45 (D) 30	1
6	A vertical stick 20 m long casts a shadow 10 m long on the ground. At the same time, a tower casts a shadow 50 m long on the ground. The height of the tower is (A) 100 m (B) 100 cm (C) 200 m (D) 150 m	1
7	P is a point on x-axis at a distance of 3 units from y-axis to its right, the coordinate of P are (A) (3, 0) (B) (0, 3) (C) (3, 3) (D) (3, 3) – Q	1
8	In the given figure, find the value of x. (A) $\frac{ab}{a+b}$ (B) $\frac{ac}{b+c}$ (C) $\frac{bc}{b+c}$ (D) $\frac{ac}{a+c}$ 	1
9	If tan A + cot A = 2 , then the value of $\tan^2 A + \cot^2 A$ is (A) –1 (B) 0 (C) 2 (D) 1	1
10	The angle between a tangent to a circle and the radius drawn to the point of contact is (A) 30° (B) 45° (C) 60° (D) 90°	1
11	If two positive integers p and q are written as $p = x^2 y^2$, $q\ xy^3$; where x and y are prime numbers, then HCF (p, q) is (A) xy (B) xy^2 (C) $x^3 y^3$ (D) x^2y^2	1
12	Which of the following statements is true about the use of angles of elevation and angles of depression in problems?	1

	(A) Angles of elevation are always measured above the horizontal line, while angles of depression are always measured below it (B) Angles of elevation and depression are completely independent and cannot be used together (C) The angle of depression from an object is never equal to the angle of elevation from another point (D) Angles of elevation are only used when measuring uphill, and angles of depression are used when measuring downhill	
13	The greater of two supplementary angles exceeds the smaller by 18^0 . What is the measure of greater angle? (A) 81^0 (B) 99^0 (C) 36^0 (D) 54^0	1
14	The point P(1, 2) divides the join of A(2, 1) and B(7, 4) – in the ratio (A) 1: 2 (B) 2 :1 (C) 3: 2 (D) 2 : 3	1
15	If cos A = 12/13 , then tan A = (A) 13/12 (B) 12/5 (C) 5/13 (D) 5/12	1
16	Which of the following is not an A.P.? (A) – 1.2, 0.8, 2.8, ... (B) 3, $3 + \sqrt{2}$, $3 + 2\sqrt{2}$, ... (C) 4/3, 7/3, 9/3 , , , ... (D) –1/5, –2/5 , –3/5 , ...	1
17	If the sum of the roots of the quadratic equation $mx^2 + 6x + 4m = 0$ is equal to the product of the roots, then m = (A) -3/2 (B) 3/2 (C) 2/3 (D) 2/3	1
18	A ladder leaning against a wall makes an angle of o 60 with the ground. If the foot of the ladder is 4 m away from the wall, then the length of the ladder is (A) 4 m (B) 8 m (C) $4\sqrt{3}$ m (D) $2\sqrt{3}$ m	1
19	The length of the tangent drawn from a point 5 cm away from the center of a circle of radius 3 cm is (A) 3 cm (B) 4 cm (C) 5 cm (D) 6 cm	1
20	The th n term of the A.P. : a , 3a , 5a , ... is (A) n a (B) (2n – 1)a (C) (2n + 1)a (D) (2n) a	1
Questions number 19 and 20 are Assertion and Reason based questions. Two statements are given, one labelled as Assertion (A) and the other is labelled as Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below. (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion(A) (C) Assertion (A) is true, but Reason (R) is false. (D) Assertion (A) is false, but Reason (R) is true.		
21	(A) : If a quadratic polynomial has equal zeroes, then its graph touches the x-axis at exactly one point. (R) : A quadratic polynomial represented by $ax^2 + bx + c = 0$, a, b, $c \neq 0$ has equal zeroes, if and only if its discriminant ($b^2 – 4ac$) is a non-negative and non-zero real number.	1
22	(A) : The angle of elevation of the sun is 60^0 . The length of the shadow of a tower is 20 m. The height of the tower is $20\sqrt{3}$ m. (R) : The angles of elevation are always measured below the horizontal line, while angles of depression are always measured above it.	1
23	Assertion (A) : In two triangles, if corresponding angles are equal, then the triangles are similar. Reason (R) : If a line is parallel to one side of a triangle, then the line divides the other two sides in the same ratio	1
24	(A) : If three vertices of a parallelogram taken in order are (-1, -6), (2, -5) and (7, 2), then its fourth vertex is (4, 1) . (R) : Diagonals of parallelogram bisect each other.	1

25	A group of students of class X visited India Gate on an education trip. The teacher and students had interest in history as well. The teacher narrated that India Gate, official name Delhi Memorial, originally called All-India War Memorial, monumental sandstone arch in New Delhi, dedicated to the troops of British India who died in wars fought between 1914 and 1919.The teacher also said that India Gate, which is located at the eastern end of the Rajpath (formerly called the Kingsway), is about 138 feet (42 metres) in height.  1. What is the angle of elevation if they are standing at a distance of 42m away from the monument? (a) 30 (b) 45 (c) 60 (d) 0 2. They want to see the tower at an angle of 60 . So, they want to know the distance where they should stand and hence find the distance. (a) 25.24 m (b) 20.12 m (c) 42 m (d) 24.64 m 3. If the altitude of the Sun is at 60 , then the height of the vertical tower that will cast a shadow of length 20 m is a) $20\sqrt{3}$m (b) $20/\sqrt{3}$ m (c) $15/\sqrt{3}$ m (d) $15\sqrt{3}$ m 4. The ratio of the length of a rod and its shadow is 1:1. The angle of elevation of the Sun is (a) 30^0 (b) 45^0 (c) 60^0 (d) 90^0	4
26	The class X students school in krishnagar have been allotted a rectangular plot of land for their gardening activity. Saplings of Gulmohar are planted on the boundary at a distance of 1 m from each other. There is triangular grassy lawn in the plot as shown in the figure. The students are to sow seeds of flowering plants on the remaining area of the plot.  1. Taking A as origin, find the coordinates of P a) (4,6) b) (6,4) c) (0,6) d) (4,0) 2. What will be the coordinates of R, if C is the origin? a) (8,6) b) (3,10) c) (10,3) d) (0,6) 3. What will be the coordinates of Q, if C is the origin? a) (6,13) b) (-6,13) c) (-13,6) d) (13,6) 4. Calculate the area of the triangles if A is the origin a) 4.5 b) 6 c) 8 d) 6.25	4

27	Your elder brother wants to buy a car and plans to take loan from a bank for his car. He repays his total loan of Rs 1,18,000 by paying every month starting with the first instalment of Rs 1000. If he increases the instalment by Rs 100 every month , answer the following  1. The amount paid by him in 30th installment is a) 3900 b) 3500 c) 3700 d) 3600 2. The amount paid by him in the 30 installments is a) 37000 b) 73500 c) 75300 d) 75000 3. What amount does he still have to pay offer 30th installment? a) 45500 b) 49000 c) 44500 d) 54000 4. If total installments are 40 then amount paid in the last installment? a) 4900 b) 3900 c) 5900 d) 9400	4
28	Raj and Ajay are very close friends. Both the families decide to go to Ranikhet by their own cars. Raj's car travels at a speed of x km/h while Ajay's car travels 5 km/h faster than Raj's car. Raj took 4 hours more than Ajay to complete the journey of 400 km.  1. What will be the distance covered by Ajay's car in two hours? a) 2(x +5)km b) (x – 5)km c) 2(x + 10)km d) (2x + 5)km 2. Which of the following quadratic equation describe the speed of Raj's car? a) $x^2 - 5x - 500 = 0$ b) $x^2 + 4x - 400 = 0$ c) $x^2 + 5x - 500 = 0$ d) $x^2 - 4x + 400 = 0$ 3. What is the speed of Raj's car? a) 20 km/hour b) 15 km/hour c) 25 km/hour d) 10 km/hour 4. How much time took Ajay to travel 400 km? a) 20 hour b) 40 hour c) 25 hour d) 16 hour	4