

NAGAMANI AMMAL MEMORIAL MATRIC.HR.SEC.SCHOL. CUMBUM – 625 516

STD: X

JULY MONTHLY TEST

Marks:50

Date: 30.06.2023

MATHS

Time: 1 ½ hrs

I) Choose the correct answer from the given alternatives:- 5x1=5

1. If $(5,7)$, $(3, P)$ and $(6,6)$ are collinear, then the value of p is _____
 a) 3 b) 6 c) 9 d) 12
2. The straight line given by the equation $x = 11$ is
 a) Parallel to X axis b) Parallel to Y axis
 c) Passing through the origin d) Passing through the point $(0,11)$
3. The area of triangle formed by the points $(-5,0)$, $(0,-5)$ and $(5,0)$ is _____
 a) 0 sq. units b) 25 sq. units c) 5 sq. units d) none of these
4. The equation of a line passing through the origin and Perpendicular to the line $7x - 3y + 4 = 0$
 a) $7x - 3y + 4 = 0$ b) $3x - 7y + 4 = 0$ c) $3x + 7y = 0$ d) $7x - 3y = 0$
5. The slope of a vertical line is _____
 a) 1 b) -1 c) undefined d) 0

II) Answer any five from the following:- 5x2=10

(Q.No.12 is compulsory)

6. Find the area of the triangle whose vertices are $(-3, 5)$, $(5,6)$ and $(5,-2)$
7. Find the slope of a line joining the points $(5, \sqrt{5})$ with the origin
8. Find the equation of a line whose inclination is 30° and making an intercept -3 on the y axis.
9. The line P passes through the points $(3, -2)$, $(12,4)$ and the line q passes through the points $(6, -2)$ and $(12,2)$ Is p parallel to q
10. The hill in the form of right triangle has its foot at $(19,3)$ The inclination of the hill to the ground is 45° . Find the equation of the hill joining the foot and top.
11. Show that the points $P(-1.5, 3)$ $Q(6,-2)$ $R(-3,4)$ are collinear.
12. Show that the straight lines $x - 2y + 3 = 0$, $6x + 3y + 8 = 0$ are perpendicular.

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III) Answer any five from the following Q.No.19 is compulsory:- $5 \times 5 = 25$

13. If the points A (- 3,9) B(a, b) and C (4, -5) are collinear and it $a + b = 1$ then find a and b.
14. Let A (3,-4), B (9,-4), C (5,-7) and D (7,-7) show that A BCD is a trapezium.
15. A cat is located at the point (-6,-4) in xy plane. A bottle of milk is kept at (5,11). The cat wish to consume the milk travelling through shortest possible distance. Find the equation of the path it needs to take its milk.
16. The floor of a hall is covered with identical tiles which are in the shapes of triangles. One such triangle has the vertices at (-3,2), (-1, -1) and (1,2). If the floor of the hall is completely covered by 110 tiles. Find the area of the floor.
17. A line makes positive intercepts on coordinate axes whose sum is 7 and it passes through (-3,8) find its equation.
18. Find the slope and y intercept of $\sqrt{3}x + (1 - \sqrt{3})y = 3$
19. Find the equation of a straight line through the intersection of lines $5x - 6y = 2$, $3x + 2y = 10$ and perpendicular to the line $4x - 7y + 13 = 0$

IV) Answer any one from the following:- $1 \times 5 = 5$

20. Draw a circle of radius 4cm. At a point L on it draw a tangent to the circle using the alternate segment.
21. Draw a tangent at any point R on the circle of radius 3.4cm and centre at P.

V) State and Prove (A B T) $1 \times 5 = 5$

22. Angle bisector theorem.