Model Question Paper

Coordinate geometry - Part II

10th Standard

Maths

Reg.No. : | | | | | | |

I.Answer all the questions.
II.Use Blue pen only.
III.Question No 16 is compulsory.

Time : 01:20:00 Hrs

Total Marks : 50

Section-A

5 x 1 = 5

1) Area of the triangle formed by the points (0,0), (2,0) and (0, 2) is

   (a) 1 sq. units (b) 2 sq. units (c) 4 sq. units (d) 8 sq. units

2) Area of the quadrilateral formed by the points (1,1) , (0 ,1) ,(0,0) and (1 , 1) is

   (a) 3 sq. units (b) 2 sq. units (c) 4 sq. units (d) 1 sq. units

3) The angle of inclination of a straight line parallel to x-axis is equal to

   (a) 0^0 (b) 60^0 (c) 45^0 (d) 90^0

4) Slope of the line joining the points (3 , -2) and (-1 , a) is $-\frac{3}{2}$ then the value of a is equal to

   (a) 1 (b) 2 (c) 3 (d) 4

5) Slope of the straight line which is perpendicular to the straight line joining the points (-2 , 6)and (4 , 8) is equal to

   (a) $\frac{1}{3}$ (b) 3 (c) -3 (d) $-\frac{1}{3}$

Section-B

6 x 2 = 12

6) Find the coordinates of the point which divides the line segment joining (3, 4) and (–6, 2) in the ratio 3 : 2 externally.

7) Find the coordinates of the point which divides the line segment joining (-3, 5) and (4, -9) in the ratio 1 : 6 internally.

8) Find the area of the triangle whose vertices are (1, 2), (-3 , 4), and (-5 ,-6).

9) If the area of the $\triangle ABC$ is 68 sq.units and the vertices are A(6 ,7), B(-4 , 1) and C(a , –9) taken in order, then find the value of a.

10) Show that the points A(2 , 3), B(4 , 0) and C(6, -3) are collinear.

11) If P(x, y) is any point on the line segment joining the points (a, 0) and (0 , b) ,then prove that $\frac{x}{a}+\frac{y}{b}=1$ where $a, b \neq 0$

Section-C

6 x 5 = 30

12) In what ratio is the line joining the points (-5, 1) and (2 , 3) divided by the y-axis? Also, find the point of intersection .

13) Find the length of the medians of the triangle whose vertices are (1, -1) , (0, 4) and (-5, 3).

14) Find the area of the quadrilateral formed by the points (-4, -2), (-3, -5), (3, -2) and (2 , 3).

15) Find the area of the quadrilateral whose vertices are (6, 9) , (7,4) , (4 , 2) and (3 , 7)

16) a) Find the area of the triangle formed by joining the midpoints of the sides of a triangle whose vertices are (0 , -1) , (2 , 1) and (0 , 3). Find the ratio of this area to the area of the given triangle.

(OR)

b) Using the concept of slope, show that the points A(5, -2), B(4, -1) and C(1, 2) are collinear.

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