**ASSIGNMENT NO.-10(THE STRAIGHT LINES )**

**(MATHEMATICS)**

1. If $A\left(-2,1\right), B\left(2,3\right)$ and $C\left(-2,-4\right)$ are three points ,find the angle between BA and BC.

2. What is the value of $y$ so that the line through $(3,y)$ and $\left(2,7\right)$ is parallel to the line through

 $\left(-1,4\right)$ and (0,6)?

3. If points $\left(a,0\right),(0,b)$ and $(x,y)$ are collinear,using the concept of slope,prove that $\frac{x}{a}+\frac{y}{b}=1.$

4. Find the equation of the straight line which makes angle of $15^{0}$ with the positive direction of x-

 axis and which cuts an intercept of length 4 on the negative direction of y-axis.

5. Find the equation of the perpendicular bisector of the line segment joining the points $A\left(2,3\right)$ and

 $B\left(6,-5\right).$

6. Find the equation of a line which divides the join of $(1,0)$ and $(3,0)$ in the ratio 2 : 1 and

 perpendicular to it.

7. A line passing through the point $A(3,0)$ makes $30^{0}$ angle with the positive direction of x-axis.If

 this line is rotated through an angle of $15^{0}$ in clockwise direction ,find its equation in new

 position.

8. In what ratio is the line joining the points (2,3) and (4,1) divides the segment joining the points

 (1,2) and (4,3)?

9. Find the equation of the line which passes through the point (3,4) and the sum of its intercepts on

 the axes is 14.

10. Find the equation of a straight line parallel to $2x+3y+11=0$ and which is such that the sum

 of its intercepts on the axes is 15.

11. Find the angle between the pair of lines $y=\left(2-\sqrt{3}\right)x+5$ and $y=\left(2+\sqrt{3}\right)x-7$.

12. Find the distance between the line $12x-5y+9=0$ and the point (2,1).