Sr. No.	**FYBSc Mathematics Paper III** **MTH 103 (A): Co-ordinate Geometry** **Question Paper for internal exam (For 20marks)**	Answer
1	Determine nature of conic is $8x^2 - 24xy + 15y^2 - 48x - 487 = 0$ given by A)Parabola B)Ellipse C)Hyperbola D)None of these	**C**
2	Determine nature of conic is $536x^2 + 24xy + 29y^2 - 10x - 6y - 3 = 0$ given by A)Parabola B)Ellipse C)Hyperbola D)None of these	**B**
3	Determine nature of conic is $5x^2 - 6xy + 5y^2 - 10x - 6y - 3 = 0$ given by A)Parabola B)Ellipse C)Hyperbola D)None of these	**B**
4	True or false .Distance Between Two points P($x_1, y_{1,} z_1$) and Q($x_2, y_{2,} z_2$) is given by $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2}$ A)True B)False	**A**
5	True or false .Relation between direction cosines: $l^2 + m^2 + n^2 = 2$ A)True B)False	**B**
6	True or False . If a, b and c any numbers such that they are proportional to l, m and n respectively then a, b and c are called as direction ratios. A)True B)False	**A**
7	True or false .If l_1, m_1, n_1 and l_2, m_2, n_2 are direction cosines of any two lines making an angle θ . then $cos\,\theta = l_1 l_2 + m_1 m_2 + n_1 n_2$ A)True B)False	**A**
8	True or false .Relation between direction cosines: $l^2 + m^2 + n^2 = 1$ A)True B)False	**A**
9	If l_1, m_1, n_1 and l_2, m_2, n_2 are direction cosines of any two lines making an angle θ . then value of $cos\,\theta$ is given by .. A)$l_1 l_2 + m_1 m_2$ B) $l_1 l_2 + m_1 m_2 + n_1 n_2$ C)1 D) 0	**B**
10	True or false .General Equation of a Plane is $ax + by + cz + d = 0$, where a, b c are the direction ratios of the normal to the plane A)True B)False	**A**

11	True or false .General Equation of a Plane is $ax^2 + by + cz + d = 0$, where a, b c are the direction ratios of the normal to the plane A)True B)False	**B**
12	True or false. In Intercept Form of Plane is $\frac{x}{a} + \frac{y}{b} + \frac{z}{c} = 1$ where a, b, c are the intercepts made with X, Y and Z-axis respectively. A)True B)False	**A**
13	True or false. In Intercept Form of Plane is $\frac{x}{a} + \frac{y}{b} + \frac{z}{c} = 0$ where a, b, c are the intercepts made with X, Y and Z-axis respectively. A)True B)False	**B**
14	True or false. In Normal Form of Plane $\boldsymbol{lx + my + nz = p}$ where l, m, n are the direction cosines of the normal to the plane and p perpendicular from the origin to the plane. A)True B)False	**A**
15	True or false. In Normal Form of Plane $\boldsymbol{lx + my + nz = p}$where l, m, n are not the direction cosines of the normal to the plane and p perpendicular from the origin to the plane. A)True B)False	**B**
16	True or false. Equation of the plane through the point(x_1, y_1, z_1) is given by $a(x - x_1) + b(y - y_1) + c(z - z_1) = 0$where a, b c are the direction ratios of the normal to the plane. A)True B)False	**A**
17	True or false. Equation of the plane through the point(x_1, y_1, z_1) is given by $a(x - x_1)^2 + b(y - y_1) + c(z - z_1) = 0$ where a, b c are the direction ratios of the normal to the plane. A)True B)False	**B**
18	True or false. Equation of the plane through the point(x_1, y_1, z_1) is given by $a(x - x_1)^2 + b(y - y_1)^2 + c(z - z_1) = 0$ where a, b c are the direction ratios of the normal to the plane. A)True B)False	**B**
19	True or false. The length of perpendicular p from the point (x_1, y_1, z_1) to the plane $ax + by + cz + d = 0$ is given by $p = \frac{ax_1 + by_1 + cz_1 + d}{\sqrt{a^2 + b^2 + c^2}}$.	**A**

	A)True B)False	
20	True or false. The length of perpendicular p from the point (x_1, y_1, z_1) to the plane $ax + by + cz + d = 0$ is given by $p = \frac{ax_1+by_1+cz_1+d}{\sqrt{a+b+c}}$. A)True B)False	**B**
21	True or false. The length of perpendicular p from the point (x_1, y_1, z_1) to the plane $ax + by + cz + d = 0$ is given by $p = \frac{ax_1+by_1+cz_1+d}{\sqrt{a+b+c-d}}$. A)True B)False	**B**
22	True or false. The length of perpendicular p from the point (x_1, y_1, z_1) to the plane $ax + by + cz + d = 0$ is given by $p = \frac{ax_1+by_1+cz_1}{\sqrt{a^2+b^2+c^2}}$. A)True B)False	**B**
23	True or false. .In Two Point Form , Equation of a straight line passing through (x_1, y_1, z_1), (x_2, y_2, z_2) is given by $\frac{x-x_1}{x_1-x_2} = \frac{y-y_1}{y_2-y_1} = \frac{z-z_1}{z_2-z_1}$ A)True B)False	**B**
24	True or false. .In Two Point Form , Equation of a straight line passing through (x_1, y_1, z_1), (x_2, y_2, z_2) is given by $\frac{x-x_1}{x_2-x_1} = \frac{y-y_1}{y_2-y_1} = \frac{z-z_1}{z_2-z_1}$ A)True B)False	**A**
25	True or false. .In Two Point Form , Equation of a straight line passing through (x_1, y_1, z_1), (x_2, y_2, z_2) is given by $\frac{x-x_1}{x_2-x_1} = \frac{y-y_1}{y_2-y_1} = \frac{z-z_1}{z_1-z_2}$ A)True B)False	**B**
26	True or false. .In Two Point Form , Equation of a straight line passing through (x_1, y_1, z_1), (x_2, y_2, z_2) is given by $\frac{x-x_1}{x_1-x_2} = \frac{y-y_1}{y_1-y_2} = \frac{z-z_1}{z_1-z_2}$ A)True B)False	**A**
27	True or false. .In Two Point Form , Equation of a straight line passing through (x_1, y_1, z_1), (x_2, y_2, z_2) is given by $\frac{x-x_1}{x_2-x_1} = \frac{y-y_1}{y_1-y_2} = \frac{z-z_1}{z_1-z_2}$ A)True B)False	**B**

28	True or false. .In One Point Form , Equation of a straight line $\frac{x-x_1}{a}=\frac{y-y_1}{b}=\frac{z-z_1}{c}$ where a, b,c are the direction ratios of the line. A)True B)False	**A**
29	True or false. .In One Point Form , Equation of a straight line $\frac{x-x_1}{a}=\frac{y_1-y}{b}=\frac{z-z_1}{c}$ where a, b,c are the direction ratios of the line. A)True B)False	**B**
30	True or false. Equation of a sphere with centre at C(a, b, c) and Radius “r” is given by $(x-a)^2+(y-b)^2+(z-c)^2=r^2$. A)True B)False	**A**