B.Sc. DEGREE EXAMINATION,ODD SEMESTER 2020
II Year III Semester
Three Dimensional Geometry

Max.marks :25

Answer any **FIVE** questions $(5 \times 5 = 25)$ Marks

1. Find the equation of the plane passing through the points *(2,5, - 3)*, *(-2, -3, 5)* and *(5, 3, -3)*
2. Prove that the lines $\frac{x+1}{-3} = \frac{y+10}{8} = \frac{z-1}{2} \text{and} \frac{x+3}{-4} = \frac{y+1}{7} = \frac{z-4}{1}$ are coplanar.
3. Find the centre and radius of the circle $x^2 + y^2 + z^2 - 8x + 4y + 8z - 45 = 0, \quad x - 2y + 2z = 3.$
4. Show that the equation of the right circular cone whose vertex is O,axis OZ and semi-vertical angle α is $x^2 + y^2 = z^2 \tan \alpha$
5. Find the equation of the cylinder whose generators are parallel to the $z-$axis and the guiding curve is $ax^2 + by^2 = cz, lx + my + nz = p$
6. Find the equation of the sphere having the circle $x^2 + y^2 + z^2 - 2x + 4y - 6z + 7 = 0,\ 2x - y + 2z = 5$ for a great circle.
7. Find the symmetrical form of the equations of the line of intersection of the planes $x+5y-z-7 = 0, \quad 2x-5y+3z+1 = 0.$