

## CHAPTER 12. THREE DIMENSIONAL GEOMETRY

### Focus Area Based Practice Questions

1. Let  $A(0,7,10)$  ,  $B(-1,6,6)$  and  $C(-4,9,6)$  are the vertices of a triangle.
  - a) Show that it is a right triangle.
  - b) Find the coordinate of the centre of the circle passing through the points A,B and C.
  
2. Which one of the following points lies in the sixth octant?
 

i) $(-4, 2, -5)$	ii) $(-4, -2, -5)$
iii) $(4, -2, -5)$	iv) $(4, 2, 5)$
  
3. Find the distance between the points  $(2,3,5)$  and  $(4,3,1)$  .
  
4. Determine a point on the x axis which is equidistant from the points  $(-2,3,5)$  and  $(1,2,3)$ .
  
5. Consider the points  $A(-2,3,5)$  ,  $B(1,2,3)$  and  $C(7,0,-1)$ .
  - a) Find AB, BC and AC.
  - b) Show that the points A,B,C are collinear.
  
6. Consider the triangle with vertices  $A(0,7,-10)$ ,  $B(1,6,-6)$  ,  $C(4,9,-6)$ .
  - a) Find the sides AB, BC, AC.
  - b) Prove that the triangle is right angled.
  - c) Find the centroid of the triangle.
  
7. a) State whether the following is TRUE or FALSE. “ The point  $(4,-2,-5)$  lies in the eight octant.”

**b) Find the equation of the set of points such that its distance from the points  $A(3,4,-5)$  and  $B(-2,1,4)$  are equal.**

**8. a) A point in the XZ plane is .....**

**i)  $(1,1,1)$       ii)  $(2,0,3)$       iii)  $(2,3,0)$       iv)  $(-1,2,3)$**

**b) Show that the points  $A(1,2,3)$ ,  $B(-1,-2,-1)$ ,  $C(2,3,2)$  and  $D(4,7,6)$  are the vertices of a parallelogram.**

**FOCUS AREA VIDEO LINK OF 3D GEOMETRY :**

**[https://youtu.be/j\\_TgJccE24E](https://youtu.be/j_TgJccE24E)**