**Tutorial:1(Unit:2 Vector Algebra)**

**Mathematics:1**

1. Find the values of x, y and z. So that the vactors  and  are equal.

2. Let  and .Is  ? Are the vectors  and  equal?

3. Find the unit vector in the direction of vactor .

4. For what values of a and b are the vectors  and  Collinear?

5. Find the unit vector in the direction of the sum of the vectors,

 and .

6. Decide weather the vectors  are linearly dependent or independent. If they are dependent express  as a linear combination of  and .

1. , , 
2. , , 

7. Given  and , find 

8. Find a vector in the direction of a vector that has magnitude 7 units.

**Tutorial:1(Unit:2 Vector Algebra)**

**Answers:**

1. Two vectors are equal if and only if corresponding components are equal. x=2, Y=2, z=1

2. ⇒ , Two vectors are not equal since their corresponding components are distinct.

3. Unit vector

4. Two vectors are colinear if their corresponding co-ordinates are proportional. ,

5. Unit vector in the direction of the sum of the vectors

6. (a) Linearly independent

(b) Linearly dependent. as a linear combination of and .

7. !!!!!!!!!!!!!!!!!!!!!!!!!!!sqrt(86)

8. The vector having magnitude equal to 7 and in the direction of is,

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