**Q:16 Show that the point (3,-1,3) , (1,-1,2) , (2,1,0) and (4,1,1) are the vertices of rectangle**

PQ=RS , QR=PS , QS=PR

*Solution:*

*=*

*= , =>*

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**Q:17 Under What Conditions on x , y ,z is the point p(x,y,z) equidistant from the points (3,-1,4) and (-1,5,0) ?**

*Solution:*

*=*

*Squaring b/s:*

*x2-2(x)(3)+32+y2+2y+12+z2-2(z)(4)+42 = x2+2(x)(1)2+12+y2-2(y)(5)+52+z2*

*-6x+2y-8z=2x-10y =0*

*-8x+12y-8z=0*

*8x-12y+8z=0 Ans*

**Q:18 Find the coordinates of the point dividing the join of**

**A(-3,1,4) and B (5,-1,6) in the ratio of 3:5 ?**

*Solution:*

*(x,y,z) =*

*(x,y,z) =*

*(x,y,z) =*

*(x,y,z) =*

*(x,y,z) = Ans*

**Q:18 Find the ratio in which the zy plane divides the segment joining the points A(-2,4,7) and B(3,-5,0)**

*Solution:*

*Let yz plane divides AB in ratio K:1*

*X of Q =0*

= 0

3k-2=0

3k=2

K=

Ratio = 2:3

So , zy pane divide AB in ratio 2:3