

## Worksheet: Three Dimensional Geometry

Rajasthan State Board · Class 12 · Mathematics · 5 questions · 15 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 15

**Q1.** Find the direction cosines of a line making equal angles with all three axes. [2 marks]

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**Q2.** Find the vector equation of the line through (1,2,3) and (4,5,6). [2 marks]

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**Q3.** Find the angle between the planes  $x + 2y + 2z = 9$  and  $2x + 3y + 6z = 8$ . [3 marks]

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**Q4.** Find the shortest distance between  $r = (i+2j+k) + \lambda(i-j+k)$  and  $r = (2i-j-k) + \mu(2i+j+2k)$ . [4 marks]

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**Q5.** Show the lines  $(x-1)/2 = (y-2)/3 = (z-3)/4$  and  $(x-4)/5 = (y-1)/2 = z$  are coplanar. [4 marks]

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