MISCELLANEOUS EXERCISES
Solutions to NCERT/CBSE MATH (Class XII)textbook
Chapter 11
THREE DIMENSIONAL GEOMETRY

23. The planes: $2x - y + 4z = 5$ and $5x - 2.5y + 10z = 6$ are

(A) Perpendicular (B) Parallel

(C) intersect y-axis (D) passes through $\left(0, 0, \frac{5}{4}\right)$

Answer:23

Equations of planes are

$2x - y + 4z = 5$

$5x - 2.5y + 10z = 6$

Compairing the coefficients of x,y,z

$$\frac{2}{5} = \frac{-1}{-2.5} = \frac{4}{10}$$

The planes $a_1x + b_1y + c_1z = d_1$

and $a_2x + b_2y + c_2z = d_2$ are parallel

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$$

∴ From (3), this condition is satisfied.