

The equation of the plane containing the line $2x - 5y + z = 3$; $x + y + 4z = 5$, and parallel to the plane, $x + 3y + 6z = 1$, is :

- (1) $x + 3y + 6z = 7$
- (2) $2x + 6y + 12z = -13$
- (3) $2x + 6y + 12z = 13$
- (4) $x + 3y + 6z = -7$

These lines are not ||

Equation of a plane parallel to this plane is

$$x + 3y + 6z + k = 0 \text{ --- (1)}$$

∴ The required plane must consist of the point of intersection of the two given lines

$$\left. \begin{array}{l} 2x - 5y + z = 3 \\ x + y + 4z = 5 \end{array} \right\} \Rightarrow \text{On observation } x = 1; y = 0; z = 1$$

Replacing this value in equation (1), we get $k = -7$

∴ Equation of the plane is

$$x + 3y + 6z = 7$$

∴ correct option is (1)