

$$2.) A = P\mathbf{i} - 6\mathbf{j} - 3\mathbf{k}$$

$$B = 4\mathbf{i} + 3\mathbf{j} - \mathbf{k}$$

$$C = \mathbf{i} - 3\mathbf{j} + 2\mathbf{k}$$

$$\therefore A \cdot (B \times C) = 0$$

\Rightarrow

P	-6	-3	
4	3	-1	$= 0$
1	-3	2	

P	3	-1	$-(-6)$	4	-1	$+(-3)$	4	3	$= 0$
	-3	2		1	2		1	-3	

$$P(6-3) + 6(8+1) - 3(-12-3) = 0$$

$$P(3) + 6(9) - 3(-15) = 0$$

$$3P + 54 + 45 = 0$$

$$3P + 99 = 0$$

$$3P = -99$$

$$P = \frac{-99}{3} = -33$$

$$\therefore P = -33$$