

JEE MAIN THREE DIMENSIONAL GEOMETRY — COPLANARITY OF LINES, INTERSECTION OF A LINE AND A PLANE (JEE) — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 2 questions

- Q.1** The square of the distance of the point of intersection of the lines $\vec{r} = (\hat{i} + \hat{j} - \hat{k}) + \lambda(\hat{a} - \hat{j})$, $\hat{a} \neq 0$ and $\vec{r} = (4\hat{i} - \hat{k}) + \mu(2\hat{i} + \hat{a}\hat{k})$ from the origin is :

[JEE Main 2026 (Online) 5th April Morning Shift]

- (1) 5 (2) 10 (3) 17 (4) 26

Scan or tap for the full solution



- Q.2** If the point of intersection of the lines $\frac{x+1}{3} = \frac{y+a}{5} = \frac{z+b+1}{7}$ and $\frac{x-2}{1} = \frac{y-b}{4} = \frac{z-2a}{7}$ lies on xy-plane, then the value of $a + b$ is :

[JEE Main 2026 (Online) 2nd April Morning Shift]

- (1) 2 (2) 5 (3) 7 (4) 9

Scan or tap for the full solution



Section B (Numerical) — 1 question

- Q.3** Let a line L_1 pass through the origin and be perpendicular to the lines $L_2 : \vec{r} = (3+t)\hat{i} + (2t-1)\hat{j} + (2t+4)\hat{k}$ and $L_3 : \vec{r} = (3+2s)\hat{i} + (3+2s)\hat{j} + (2+s)\hat{k}$, $t, s \in \mathbb{R}$. If (a, b, c) , $a \in \mathbb{Z}$, is the point on L_3 at a distance of $\sqrt{17}$ from the point of intersection of L_1 and L_2 , then $(a + b + c)^2$ is equal to _____.

[JEE Main 2026 (Online) 8th April Evening Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2									
Ans.	3	3									

Section B (Numerical) — 1 question

Ques.	3										
Ans.	4										