

PART 1 - MATHEMATICS

Topic : Three dimensional geometry

SECTION-1 : (Maximum Marks : 4)

- This section contains **ONE** question.
- Each question has **FOUR** options (A), (B), (C) and (D). **ONE OR MORE THAN ONE** of these four option(s) is(are) correct answer(s).
- For each question, choose the option(s) corresponding to (all) the correct answer(s).
- Answer to each question will be evaluated according to the following marking scheme :

Full Marks	: +4	ONLY if (all) the correct option(s) is(are) chosen;
Partial Marks	: +3	If all the four options are correct but ONLY three options are chosen;
Partial Marks	: +2	If three or more options are correct but ONLY two options are chosen, both of which are correct;
Partial Marks	: +1	If two or more options are correct but ONLY one option is chosen and it is a correct option;
Zero Marks	: 0	If none of the options is chosen (i.e. the question is unanswered);
Negative Marks	: -2	In all other cases.
- For example, in a question, if **(A), (B) and (D)** are the ONLY three options corresponding to correct answers, then choosing ONLY (A), (B) and (D) will get +4 marks; choosing ONLY (A) and (B) will get +2 marks; choosing ONLY (A) and (D) will get +2 marks; choosing ONLY (B) and (D) will get +2 marks; choosing ONLY (A) will get +1 mark; choosing ONLY (B) will get +1 mark; choosing ONLY (D) will get +1 mark; choosing no option (i.e. the question is unanswered) will get 0 marks; and choosing any other combination of options will get -2 marks.

1. Let L be the straight line joining the points P(1,2, - 1) and Q(2,3,1). Let S be the foot of the perpendicular drawn from the point R(4, - 1,5) to the line L. Another line passing through R intersects L at a point T such that the point S divides the line segment PT internally in the ratio $|PS|:|ST| = 1:2$, where $|PS|$ and $|ST|$ are the lengths of the line segments PS and ST, respectively.

Then which of the following statements is (are) TRUE ?

[JEE Advanced 2026 Paper 2]

- (A) The orthocentre of the triangle PRT is $\left(\frac{23}{5}, -4, \frac{31}{5}\right)$
- (B) The orthocentre of the triangle PRT is (4,3,5)
- (C) The area of the triangle PRT is $6\sqrt{5}$
- (D) The area of the triangle PRT is $18\sqrt{5}$

Scan or tap for the full solution



Space for Rough Work

JEE ADVANCED THREE DIMENSIONAL GEOMETRY —
DISTANCE OF A POINT FROM A LINE, FOOT OF
PERPENDICULAR — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-1																								
Ques.	1																							
Ans.	A, D																							