

PART 1 - MATHEMATICS

Topic : Conic sections

SECTION-A : (Maximum Marks : 4)

- This section contains **ONE** question.
- Each question has **TWO** lists: **List-I** and **List-II**.
- Four options are given representing matching of elements from List-I and List-II. **ONLY ONE** of these four options corresponds to a correct matching.
- For each question, choose the option corresponding to the correct answer.
- Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

1. Let the straight line $y = 2x$ touch a circle with center $(0, \alpha)$, $\alpha > 0$, and radius r at a point A_1 . Let B_1 be the point on the circle such that the line segment A_1B_1 is a diameter of the circle. Let $\alpha + r = 5 + \sqrt{5}$.

Match each entry in **List-I** to the correct entry in **List-II**.

[JEE Advanced 2024 Paper 1]

List-I		List-II	
P.	α equals	1.	$(-2, 4)$
Q.	r equals	2.	$\sqrt{5}$
R.	A_1 equals	3.	$(-2, 6)$
S.	B_1 equals	4.	5
		5.	$(2, 4)$

(A) $(P) \rightarrow (4) (Q) \rightarrow (2) (R) \rightarrow (1) (S) \rightarrow (3)$ (B) $(P) \rightarrow (2) (Q) \rightarrow (4) (R) \rightarrow (1) (S) \rightarrow (3)$ (C) $(P) \rightarrow (4) (Q) \rightarrow (2) (R) \rightarrow (5) (S) \rightarrow (3)$ (D) $(P) \rightarrow (2) (Q) \rightarrow (4) (R) \rightarrow (3) (S) \rightarrow (5)$

Scan or tap for the full solution



Space for Rough Work

JEE ADVANCED CONIC SECTIONS — CIRCLE: TANGENT, NORMAL AND CHORD OF CONTACT (JEE) — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A

[illegible]