

PART 1 - PHYSICS

Topic : Electrostatic potential and capacitance

SECTION-B : (Maximum Marks : 4)

This section contains **ONE** question.

The answer to each question is a **NON-NEGATIVE INTEGER**.

For each question, enter the correct integer corresponding to the answer in the place designated to enter the answer.

Answer to each question will be evaluated according to the following marking scheme :

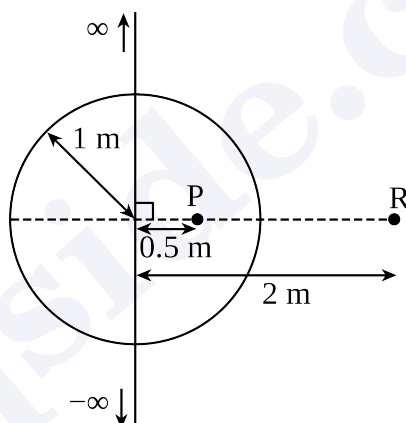
Full Marks : +4 If **ONLY** the correct answer is entered;

Zero Marks : 0 In all other cases.

1. An infinitely long thin wire, having a uniform charge density per unit length of 5 nC/m , is passing through a spherical shell of radius 1 m , as shown in the figure. A 10 nC charge is distributed uniformly over the spherical shell. If the configuration of the charges remains static, the magnitude of the potential difference between points P and R, in Volt, is _____.

[Given: In SI units $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9$, $\ln 2 = 0.7$. Ignore the area pierced by the wire.]

[JEE Advanced 2024 Paper 2]



Scan or tap for the full solution



Space for Rough Work

JEE ADVANCED ELECTROSTATIC POTENTIAL AND CAPACITANCE — POTENTIAL DUE TO A POINT CHARGE, SYSTEM OF CHARGES AND DIPOLE — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B																											
Ques.	1																										
Ans.	171																										