

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 :

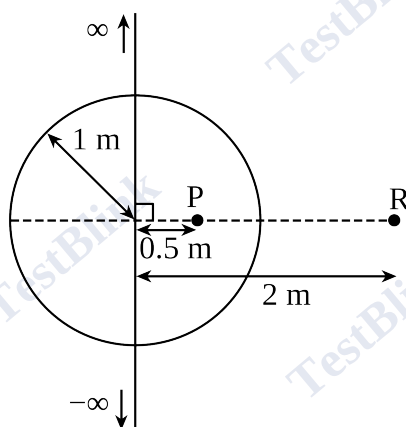
Full Marks : +4 If **ONLY** the correct answer is entered;

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

[illegible]