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JEE MAIN ELECTROSTATIC POTENTIAL AND CAPACITANCE — DIELECTRICS AND POLARISATION — PYQS

Max. Marks: 8 **Questions:** 2

Section A (MCQ) — 1 question

Q.1 Given below are two statements : one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**.

Assertion (A): Net dipole moment of a polar linear isotropic dielectric substance is not zero even in the absence of an external electric field.

Reason (R): In absence of an external electric field, the different permanent dipoles of a polar dielectric substance are oriented in random directions.

In the light of the above statements, choose the most appropriate answer from the options given below :

[JEE Main 2025 (Online) 2nd April Evening Shift]

(1) Both (A) and (R) are correct and (R) is the correct explanation of (A)

(2) Both (A) and (R) are correct but (R) is not the correct explanation of (A)

(3) (A) is not correct but (R) is correct

(4) (A) is correct but (R) is not correct

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Section B (Numerical) — 1 question

Q.2 A parallel plate capacitor has charge 5×10^{-6} C. A dielectric slab is inserted between the plates and almost fills the space between the plates. If the induced charge on one face of the slab is 4×10^{-6} C then the dielectric constant of the slab is _____.

[JEE Main 2025 (Online) 7th April Evening Shift]

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ANSWER KEY

Section A (MCQ) — 1 question

Ques.	1										
Ans.	**3**										

Section B (Numerical) — 1 question

Ques.	2										
Ans.	**5**										