THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

AIM HIGH, TOGETHER WE FLY

Date: 13/07/22 GRADE: XII	MONTHLY TEST -02 (2022-23) PHYSICS (042)	Max marks: 20 Time: 1 Hour

General Instructions:

1. There are 9 questions in the question paper.
2. All questions are compulsory.

Qn. No		Marks allocated
	SECTION A	
1	A surface that has the same electrostatic potential at every point on it, is known as———–. A. Equal-potential surface B. Same potential surface C. Equi-magnitude surface D. Equipotential surface	1
2	**Assertion:** Electric field inside a conductor is zero. **Reason:** The potential at all the points inside a conductor is same. A. Both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion. B. Both Assertion and Reason are correct but Reason is not a Correct explanation of the Assertion. C. The Assertion is correct but Reason is incorrect. D. Both the Assertion and Reason are incorrect.	1
3	SI unit of potential is A. Coulomb B. Farad C. Ampere D. Volt	1
	SECTION B	
5	In a parallel plate capacitor how is the capacitance affected when, without changing the charge. i) The distance between the plates is doubled. ii) The area of the plate is halved.	2

	SECTION C	
6	A. Define dielectric polarization B. Give the expression for potential energy of an electric dipole in an electric field C. Mention the special cases in which potential energy of an electric dipole becomes maximum and minimum.	3 (1+1+1)
7	Write a note on parallel and series combinations of capacitors.	3
8	A. Calculate the potential at a point p due to a charge of $4 \times 10^{-7} C$ located 9cm away. (Take $1/(4\pi\varepsilon_{0)=}9 \times 10^9 Nm^2 C^{-2)}$ B. Hence obtain the work done in bringing a charge of $2 \times 10^{-9} c$ From infinity to the point p.	3 (1.5+1.5)
	SECTION D	
9	A. Derive General expression for parallel plate capacitor. B. A potential difference of 250 volts is applied across the plates of a 25 microfarad capacitor to calculate the charge on the plates of the capacitor.	5
	THE END	