ELECTROSTATICS

ELECTROSTATIC POTENTIAL AND CAPACITANCE- Test Paper-II

MAX MARKS: 30 **TIME: 90Mts**

+S.N	QUESTION	ANSWER PAGE	MARK
1	What is the value of electrostatic field inside a conductor?	Page:68	1
2	What is the direction of electrostatic field at every point on the surface of a charged conductor?	Page:68	1
3	What is the difference in the movement of charge carriers in case of metal to that of electrolytic conductors?	Page:67	1
4	Derive an expression to find the potential energy of an electric dipole in an external field.	Page:66	3
5	What is the amount of net charge inside the charged conductor?	Page:68	1
6	What can you say about the electrostatic potential throughout the volume of a charged conductor**?**	Page:68	1
7	Derive the relation $E = \| \sigma \| / \varepsilon 0$ to find the electric field at the surface of a charged conductor.	Page:69	2
8	What is meant by electrostatic shielding? What is the advantage of it?	Page:69	2
9	A comb run through one's dry hair attracts small bits of paper why? What happens if the hair is wet or if it is a rainy day**?**	Page:70	2
10	Ordinary rubber is an insulator. But special rubber tyres of aircraft are made slightly conducting. Why is this necessary?	Page:70	2
11	A bird perches on a bare high power line, and nothing happens to the bird. A man standing on the ground touches the same line and gets a fatal shock. Why?	Page:70	1
12	Vehicles carrying inflammable materials usually have metallic ropes touching the ground during motion. Why?	Page:70	1
13	What are dielectric substances? How are they different from conductors?	Page:71	1
14	What is the effect of external electric field on a conductor and a dielectric substance?	Page:71	2
15	What are polar and non-polar molecules? give examples for each	Page:71	2
16	What is meant by polarization? Give the relation between polarization and applied electric field.	Page:72	2
17	A uniformly polarized dielectric amounts to induced surface charge density but no volume charge density. Explain.	Page:73	3
18	What is the effect of external electric field on a polar molecule and a non-polar molecule?		2