

# Government General Degree College, Chapra

Internal Examination of 5<sup>th</sup> Semester 2023-24

Paper: PHY-G-DSE-T-01

Total Marks: 15

Time: 45 minutes

**Answer any 15 marks questions only:**

1. State the Coulomb's Law. 2
2. Show that the Coulomb force is consistent with Newton's third law of motion. 2
3. Discuss the limitations of Coulomb's law. 2
4. State the principle of superposition of charge. 2
5. Write down the properties of electric lines of force. 4
6. Why do electric lines of force never intersect each other? 2
7. What do you mean by electrostatic shielding? 2
8. Define electric dipole. 2
9. What is the 'SI' unit of electric dipole? 1
10. What is the properties of an ideal electric dipole? 2
11. Derive the electric field intensity at a point on the axial line due to an electric dipole. 4
12. Derive the electric field intensity at a point on the equatorial line due to an electric dipole. 4
13. What do you mean by torque on an electric dipole in a uniform electric field? 3
14. What is the 'SI' unit of torque? 1