UNIVERSITY OF GUJRAT
Department of Computer Science
Mid Term Examination Fall- 2024

Course Code: PHY-117 **Time allowed: 1:30 Hrs.**
Course Title: Applied PHYSICS **Total Marks: 25**
Instructor: Ayesha Younas
Semester: BS(E)-I-C

Student's Name: Asfand yar **Roll No:** 133

Section A

Q. 1: Attempt all short questions. (2×5 = 10)

i. What is meant by the quantization and conservation of charge? Give some examples.

ii. State Coulomb's Law and write its mathematical expression.

iii. A copper penny contains both negative and positive charges each of magnitude 1.37×10^5 C. Suppose these charges could be concentrated into separate bundles held 100 m apart. What attractive force act on each bundle?

iv. Why do electric field lines never cross each other?

v. Describe Equipotential surfaces with examples.

Section B

***Note:* Attempt all long questions.** (15)

Q. 2: **(a)** What is electric dipole? Calculate the electric field due to a dipole.

(b) A point charge of 1.84×10^{-6} C is at center of Gaussian surface 0.55 m on edge. Find flux through surface?

(5+3)

Q. 3: **(a)** Define Gauss's law and apply it to find electric field near an infinite line of charge.

(b) A plastic rod whose length is 220 cm and whose radius is 3.6 mm carries a negative charge of magnitude 3.8×10^{-7}C. What is electric field near mid-point of rod, at a point on the surface of it?

(4+3)

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Committee member

Chairperson