Air University
Mid Semester Examinations: Spring 2025

Student ID: _____

Subjective Part
(To be solved on Answer Books only)

Subject: APPLIED PHYSICS
Class: BSCS-VIII (Additional)+aysev
Section(s): A & B
Course Code: Ph-102 / PH-111
Paper: A

Time Allowed: 2Hrs.
Max Marks: 50
FM's Name: NAZIR AHMED MALIK
FM's Signature: nazir ahmed 14/5/25

INSTRUCTIONS
- Attempt responses on the answer book only.
- Nothing is to be written on the question paper.
- Rough work or writing on question paper will be considered as use of unfair means.
- Calculators are allowed.

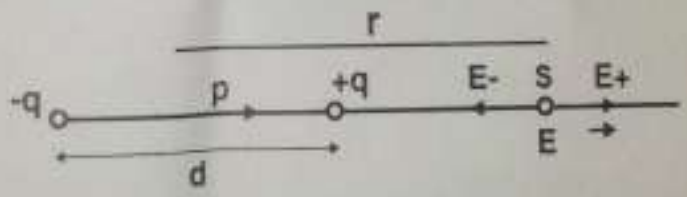
Q1. (CLO-1/PLO-2/C-2) **Marks (8+7=15)**

a) Deduce the relation for electrostatic force (Coulomb's law) from Gauss' law.

b) Define electric field. Also derive its relation for a charge 'Q' at a distance 'r'.

Q2. (CLO-2/PLO-2/C-2) **Marks (10+10=20)**

a) Whileunderstandingwhatelectricfieldis,derivetheformulaofelectricfielddue to a DIPOLE along the axis of dipole, where charges are separated by distance of "d".



b) Calculate electric field due to an infinite sheet of uniform charge density, using Gauss's Law. Given area of sheet is 'A' m^2.

Q3. (CLO-3/ PLO-2/C-3) **Marks (15)**

Evaluate the netpotentialatpoint Pinthefigurebelowduetochargesplacedaround it.