NAME: Mbama Crystabel Zinachidi.

DEPARTMENT :Nursing.

MATRIC NUMBER 19/MHS02/075

COURSE Physics 102

2) a) Distinguish between the term electric field and electric field intensity.

Electric field is a region or space in which an electric charge will experience an electric force while the electric field intensity is defined as the force per unit charge where the charges experiences a force when placed at a particular point.

3) a)state the formulation of the following identities of charges

Volume charge density

Surface change density

Linear change density

B) Explain the electric potential difference

The electric potential difference between two points in an electric field can be defined as the work done per unit charge against electrical forces when a change is transported from one point to another it is measured in volts or joules per coulomb

4)a) MAGNETIC FUX

This is defined as the strength of magnetic field represented by lines of forces. I

b) mass of electron=9 \* 10-31kg

r= 1.4 \* 107

B=3.5\*10-1weber/meter2

Cyclotron frequency=angular speed

W= 1.6\*10-19 \* 10-1

9 \* 10-31

W= 62222222222.22222T-1

c) the mass of electron was given the radius was also given and u are asked to find the cyclotron frequency which is equal to the angular speed so sine cyclotron frequency is equal to angular speed the cyclotron frequency is equal to 6222222222.2222T-1, having its unit which is equal to the unit of frequency dimensionally.

5) a) State the biot savart law

This states that it is a mathematical expression which illustrates the magnetic field produced by a stable electric current in the particular electromagnetism of physics.

b) when the length of the conductor is very great in comparison to its distant from a point, we consider it infinitely long. That is when is much longer than in a physical situation we have axial symmetry about the y axis. Thus at all points in a circle of radius , around the conductor, the magnitude of B in the equation defines the magnitude of the magnetic field of flux density B near a long straight current carrying conductor.