Total No. of Questions : 4]

P8572

SEAT No. :

[Total No. of Pages : 1

Oct-22/TE/Insem-550 T.E.(E&TC Engineering) **ELECTROMAGNETIC FIELD THEORY** (2019 Pattern) (Semester-I) (304182)

Time : 1 Hour]

[Max. Marks : 30

[5]

[5]

[8]

Instructions	to	the	candidates:
	w	inc	cununcures.

- Answer two questions Q.1 or Q.2, Q.3 or Q.4. *1*)
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Assume suitable data if necessary.

State and Explain Coulmob's Law in vector notation *Q1*) a)

- Define Electric Field intensity and derive its expression b) [5]
- State and Prove Gauss's Law c)

OR

(02) a) Determine Electric flux density at (4,0,3) if there is a point charge -5π mc at (4,0,0) and line charge 3π mC/m along Y-axis [7]

- A Point charge of 5 nC is located at origin if V = 2 V at (0,6,-8) Find: b)
 - i) Potential at A (3.2.6
 - ii) Potential at B (1,5,
 - Potential difference iii)
- *Q3*) a) State & prove Biot's Savart Law of magneto statics.
 - b) Define conduction current, conduction current density and derive current continuity equation [7]

OR

- Derive point form of Maxwell equation for Magneto statics ($\nabla XH = J$). **04**) a)
 - [8]
- FLO 280H Explain the physical significance of curk [7] b)