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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Subject& Code Electromagnetic Fields & Transmission Lines (22EC416PC)

Course **Academic Year** B. Tech. 2023-24

Year & Semester : II Year & II Sem **Date**

Exam Mid-1 Regulation R22 : :

Branch ECE Max Marks 30

Duration 2 hours,

Q. No	Question	Marks	Bloom's Taxonomy	CO
1	State and explain coulombs law using vector form of coulombs force expression. A charge of $-0.3\mu\text{C}$ is located at A(25,-30,15) and a second charge of $0.5\mu\text{C}$ located at B(-10,8,12). Find the electric Force (\vec{F}) at point P(15,20,50)	5	Evaluate	1
2	State and explain gauss law in point form and integral form. Using gauss law derive an expression for electric field intensity due to infinite sheet charge of charge density ρ_s C/ m^2 and it is placed at z=0 m	5	Analyze	1
3	Define geometry and capacitance of a capacitor and obtain an expression for capacitance of coaxial capacitor	5	Evaluate	1
4	Define and explain amperes law in point form and integral form. Find the magnetic field intensity at a point 'P' due to infinite sheet current placed at z=0 m.	5	Understand	2
5	Derive an expression for magnetic vector potential.	5	Understand	2
6	Explain inconsistency of amperes law in detail.	5	Understand	3