R18 Regulation *Subject code:2P3BE*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, December 2024

ELECTROMAGNETIC FIELDS
(EEE)

Maximum Marks: 70 Date:11.12.2024 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	What is the source of electric field.	1	L1
2	State divergence theorem.	1	L1
3	State coulombs law.	2	L1
4	Define point charge.	2	L1
5	Define one coulomb.	3	L1
6	State Biot-Savart's law.	3	L1
7	What is significance of displacement current?	4	L1
8	What is self-inductance?	4	L1
9	How Maxwell's equations are modified for time varying electric?	5	L1
10	What is meant by the term displacement current?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	State and proof divergence theorem. [10M]	1	L2
	OR		
12	Explain the rectangular co-ordinate system with neat diagram. [10M]	1	L2
13	State and proof gauss law .and explain applications of gauss law. [10M]	2	L2
	OR		
14	Explain Poison's and Lapace's equations. [10M]	2	L2
15	State Gauss law and mention few applications of it. [10M]	3	L2
	OR		
16	Using ampere's circuital law, find MFI due to an infinite sheet of current. [10M]	3	L2
17	Derive an expression for magnetic field intensity due to infinite sheet of current. [10M]	4	L2

	OR		
18	Find the magnetic field density at appoint on the axis of a circular loop of a radius b that carries a current I. [10M]	4	L2
19	Explain statically and dynamically induced e.m.fs [10M]	5	L3
	OR		
20	Discuss about the plane waves in lossy dielectrics. [10M]	5	L2