Reg. No.												

Question Paper Code	13074

M.E. / M.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024
Second Semester
M.E. - Communication Systems
20PCOPC203 - ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY
Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

		Marks	K-Level	CO
1.	Define Conducted susceptibility.	2	K1	CO1
2.	List the harmful effects of EMI.	2	K1	CO1
3.	Define EM shielding.	2	K1	CO3
4.	List the advantages of multipoint grounding.	2	K1	CO3
5.	Define Magnetic Sputtering.	2	K1	CO4
6.	Indicate why shielding problems are difficult to handle.	2	K2	CO4
7.	Define Class A devices with reference to FCC.	2	K1	CO5
8.	Judge why do CISPR standards evolved?	2	K2	CO5
9.	How radiated emissions and conducted emissions are measured.	2	K2	CO6
10.	Define Antenna Factor.	2	K1	CO6

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a)	Explain the various mechanisms in which electromagnetic interference can travel from source to receptor.	13	K2	CO1

OR

b)	Explain the different lightening discharges, EM Fields produced by lightning and its effect on transmission lines.	13	K2	CO1

12. a)	Define filter. With neat diagram, explain in detail about different types of filter.	13	K2	CO3

OR

b)	Explain with diagram the principle of operation and application of single point, multipoint and hybrid grounding.	13	K2	CO3

13. a)	Illustrate how shielding is done in PCB and also list the reasons for PCB level shielding.	13	K2	CO4

OR

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **13074**

b) Explain about electromagnetic compatibility that is achieved while PCB is prepared for industry applications.   *13   K2   CO4*

14. a) Explain in detail the specifications for emissions and susceptibility given in MIL STD 461E.   *13   K2   CO5*

OR

b) Summarize FCC and CISPR Conducted Emission and Radiated Emission standards.   *13   K2   CO5*

15. a) Explain the procedure for measurement of radiation susceptibility and radiated emissions using TEM cell.   *13   K2   CO6*

OR

b) Explain in detail the operating principles and measurements that can be carried out in a microwave anechoic chamber. How is the chamber quality assessed?   *13   K2   CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Elaborate the inductive coupling with neat diagrams.   *15   K3   CO2*

OR

b) Define radiated differential mode coupling. Infer in what way this is different from the radiated common mode coupling? Explain this with example.   *15   K3   CO2*