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B.E./ B.Tech.(Full Time)DEGREE END SEMESTER EXAMINATIONS,APR / MAY2012  
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH  
EIGHTH SEMESTER  
**EC 520 – ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY**

**(EMI/EMC)**

(REGULATION 2004)

Time: 3 Hours

Max.marks: 100

Answer ALL questions

Part-A (10x2 = 20 Marks)

1. What does maximum radiated E field vary with?
2. How does EM radiation cause health hazards to human?
3. Define common impedance coupling.
4. Draw the circuit diagram for power supply coupling.
5. What is the need for power supply filters to avoid CE?
6. What is the difference between grounding and bonding?
7. What is CISPR22 measurement distance?
8. How can you classify emission tests on the basis of bandwidth?
9. What is near field of antenna?
10. Draw the circuit diagram for feed through capacitor.

Part-B (5x16 = 80 Marks)

11. Explain the importance of CM and DM currents in CE measurement. (16)
- 12.(a)(i) Explain the significance of Cable to cable coupling. (8)  
(ii) Discuss the effect of power supply components in CE. (8)  
**OR**
- 12.(b) Distinguish between common mode current and differential mode current. (16)
- 13.(a)(i) Explain the four-terminal method of measuring earth resistivity. (8)  
(ii) Distinguish between single point grounding and multipoint grounding. (8)  
**OR**
- 13.(b)(i) Explain the factors influencing the EMI performance of the bonding. (8)  
(ii) Explain how shielding effectiveness of various fields can be defined at the receptor without barrier and with barrier. (8)

- 14.(a)(i) What are the IEC specifications adopted by ANSI standard? (8)  
(ii) Explain how military standards are useful in the area of EMI / EMC. (8)

**OR**

- 14.(b)(i) What are the characteristics of CISPR EMI Meters? Explain. (8)  
(ii) What arrangements does the FCC have for handling equipment that produces non-ionizing radiation? Explain. (8)

- 15.(a) List out the constructional details of TEM cell. Explain, in detail, the sources of inaccuracies in the measurement using TEM cell. (16)

**OR**

- 15.(b)(i) Draw DM current emission model and explain. (8)  
(ii) Compare EMI test receivers and test wave simulators. (8)
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