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B.E./B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2011
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH

EIGHTH SEMESTER

EC 520 – ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY

(REGULATIONS 2004)

Duration: 3 Hours

Max.marks: 100

Answer ALL questions

PART-A

(10x2=20Marks)

1. Define EMI and EMC.
2. What does cloud-to-cloud discharge refer to?
3. List out the types of coupling between cables.
4. What is meant by common impedance coupling?
5. What do you mean by EM shielding?
6. How do you classify EMI filters depending on the frequency range to be suppressed?
7. List the SAR values due to mobile phone radiation as per FCC.
8. Tabulate the immunity limits for pulsed interferences.
9. Where are current probes useful?
10. Write the significance of field strength in antenna factor measurement.

PART-B

(5x16=80 Marks)

- 11.(i) Prove that electromagnetic pulse(EMP) is a nuclear phenomenon. (8)
(ii) Distinguish between the features of conducted EMI and radiated EMI. (8)
- 12.(a) Describe the differences between radiated DM and CM coupling. (16)
OR
- 12.(b) Explain how a ground loop between two circuits can be broken. (16)
- 13.(a) What are the precautions to be considered in grounding? Explain. (16)
OR
- 13.(b) What are the factors influencing the EMI performances of the bonding? How can bonding be made? Mention some guidelines for Good Bonds. (16)
- 14.(a)(i) What is the need for EMI standards? Explain. (8)
(ii) Discuss briefly on EN standards. (8)
OR
- 14.(b) Tabulate conducted and radiated emission limits under military standards and explain. (16)
- 15.(a)(i) Define site attenuation and derive the expression for NSA. (8)
(ii) Discuss how LISN is placed in a measurement set-up. (8)
OR
- 15.(b) Explain the step-by-step approach for evaluating RE and RS using TEM cell. (16)
