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NEW SCHEME

Eighth Semester B.E. Degree Examination, May / June 2006
Electrical and Electronics Engineering
Electromagnetic Compatibility

Time: 3 hrs.]

[Max. Marks:100

Note: 1. Answer any FIVE questions.

- 1 a. Explain the concept of international harmonization. (04 Marks)
- b. Explain the concept of typical noise path using block diagram. What is its usage in the circuit? What is the use of network theory in explaining the elimination of EMI? (10 Marks)
- c. What are the different primary methods of eliminating EMI? Explain the methods of noise coupling. (06 Marks)
- 2 a. Explain in detail capacitive coupling between two conductors. What is the effect of shield on capacitive coupling? (10 Marks)
- b. Explain coupling between shield and inner conductor in detail. Write all relevant diagrams. (10 Marks)
- 3 a. Explain with diagrams shielding a receptor against magnetic fields. (10 Marks)
- b. What is shielding effectiveness? Explain it in detail. (10 Marks)
- 4 a. Explain the concept of single point ground system and multipoint ground system with neat diagrams. (10 Marks)
- b. With relevant diagrams, explain grounding of cable shields. (10 Marks)
- 5 a. Explain absorption loss and reflection loss by giving relevant equations. (10 Marks)
- b. Explain with relevant diagram multiple reflectors in thin shields. (05 Marks)
- c. With relevant diagram, explain the concept of near fields and far fields. (05 Marks)
- 6 a. What is static generation? Explain. (06 Marks)
- b. Taking human body as prime source, explain the concept of electrostatic discharge condition. (08 Marks)
- c. Explain ESD protection in equipment design. (06 Marks)
- 7 a. Explain the condition of balancing in any circuit with relevant diagram. (10 Marks)
- b. Explain the decoupling filters working. How does amplifier decoupling work? (10 Marks)
- 8 Write short notes on any four :
 - a. EMC regulations.
 - b. Shield transfer impedance.
 - c. Ribbon cables.
 - d. Guard shields.
 - e. Apertures.

(20 Marks)