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Reg No.----------

B.E Degree Examination, Nov/Dec 2013

EC520 /EC9029 ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY

VI semester Electronics and Communication Engineering (Full time)R2004/2008

Time:3 Hours **Max Marks:100**

Answer All Questions

Part A(5x4=20 Marks)

1. Define the term Electromagnetic-compatibility.
2. Name the sources of Electromagnetic Interference
3. Differentiate: common mode coupling and differential mode coupling
4. Specify the advantages of using Line impedance stabilization network
5. What is Zoning in PCB design
6. Define shielding effectiveness
7. What are the EMC requirements imposed on electronic systems
8. Define class A and class B devices?
9. Give the special features of Anechoic chamber
10. Give the significance of Antenna factor

Part B(5x16=80 Marks)

11.. Explain the procedure followed to reduce and measure narrow band and broad band emissions

12.a) Discuss the Health hazards of electric power transmission and steps to be taken to Mitigate it

(OR)

12 b) Explain in detail the Direct coupling, near field coupling and Radiated coupling and methods to minimize it

13a) Explain the working of isolation transformers and transient voltage suppressors in an EMC environment circuitry

(OR)

13b) What is meant by grounding? What are the key issues in grounding? Explain the various methods of grounding

14a) Describe in detail The FCC and CISPR 22 conducted emission limits for (i) Class B; (ii) Class A equipments

(OR)

14b) What are the Specification limits on emissions for control of interference for military products ? What are the Emission and Susceptibility Requirements of MIL-STD-461E

15a) Discuss and describe the construction of a TEM cell and the generation of RF field in it. Compare the tests made in it with that of test made in anechoic chamber

(OR)

15b) Describe the effects of apertures, slots at doors and covers on the incident wave. Discuss the phenomena that contribute to the reduction of the incident field as it passes through a barrier.