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Question Paper Code : 50420

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Seventh Semester

Electronics and Communication Engineering

EC 6011 – ELECTRO MAGNETIC INTERFERENCE AND COMPATIBILITY

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. What are the harmful effects of EMI ?
2. Define Electromagnetic susceptibility.
3. What is Pigtail effect ?
4. Define Edge Ratio.
5. How do measure the shielding effectiveness ?
6. Define EMC Gasket.
7. What are product standards ? Give an example.
8. List out the advantages of EMC standards.
9. Give out the need for feed through capacitors.
10. Write down the advantages of OAT.

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PART - B

(5×16=80 Marks)

11. a) i) Explain the mechanisms of EMI. Mention its applications. (8)
ii) What are the types of EMI ? With neat diagram explain the sources and consequences of EMI. (8)

(OR)

- b) i) Explain the classification of electromagnetic radiation and its hazards. (8)
ii) Explain the effect of radiation on the human body. (8)

12. a) Write short notes on :
i) Conducted coupling. (5)
ii) Near-field coupling. (5)
iii) Far field coupling. (6)

(OR)

- b) Explain in detail about transient sources and automotive transients. (16)

13. a) i) Describe the strategy used in EMC grounding for large systems. (10)
ii) Explain the precautions used in earthing. (6)

(OR)

- b) Define filter. With neat diagram, explain in detail about different types of filter. (16)

14. a) Briefly explain the following standards :
i) CISPR. (8)
ii) CENELEC. (8)

(OR)

- b) Explain in detail about the CE, CS, RE, RS limits in military standards. (16)

15. a) With neat diagram, explain the super-heterodyne spectrum analyzer. (16)

(OR)

- b) Define EMI test receiver. Explain. List out the key features used to design EMI test receiver. (16)