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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 20394

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Electronics and Communication Engineering

EC 6011 — ELECTRO MAGNETIC INTERFERENCE AND COMPATIBILITY

(Regulations 2013)

(Also Common to PTEC 6011 – Electromagnetic Interference and Compatibility for B.E. (Part-Time) – Seventh Semester – Electronics and Communication Engineering Regulations – 2014)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by Electromagnetic Compatibility?

2. List out types of Electromagnetic Emission.

3. Define cross talk.

4. What is LISN?

5. What are the purposes of shielding?

6. What do you understand from single-point ground system?

7. Point out the parameters that involves in testing and evaluation of EMI and EMC.

8. Give any two BSI published standards.

9. Write are the advantages of Anechoic chamber, in EMI measurements.

10. A log periodic antenna is to be used from 500 MHz to 10 GHz. Determine the length of the shortest and longest elements.

PART B — (5 × 13 = 65 marks)

11. (a) Discuss about the sources and victims of Electromagnetic interference.

Or

(b) Discuss about the noise parameters involved in EMC/EMI.

12. (a) Explain in detail about radiation coupling and conduction coupling.

Or

(b) Explain in detail about common impedance coupling with relevant diagrams.

13. (a) (i) Explain how shielding is done to prevent magnetic radiation.

(ii) Write short notes on magnetic shielding.

Or

(b) Explain in detail about Lumped Element low pass filters.

14. (a) Explain in detail about various military standards.

Or

(b) Brief VDE and Euro norms for EMI/EMC.

15. (a) What do you understand from TEM cell? Discuss any one measurement using TEM cell.

Or

(b) Write short notes on Broadband measurement antennas.

(i) The Biconical Antenna

(ii) Log-Periodic Antenna.

PART C — (1 × 15 = 15 marks)

16. (a) Explain the principle of grounding. Explain the method of grounding for mixed signal systems.

Or

(b) Discuss in detail how transients affect electronic systems. Explain automotive transients and its detrimental effects.

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