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Question Paper Code : 60645

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Second Semester

Civil Engineering

GE 2151/EE 26/EE 1153/080280011/10133 EE 206 — BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to Aeronautical, Automobile, Marine, Mechanical, Production, Chemical, Petroleum Engineering, Biotechnology, Polymer, Textile, Textile (Fashion), Plastic Technology, Environmental Engineering, Geoinformatics Engineering, Industrial Engineering, Industrial Engineering and Management, Manufacturing Engineering, Material Science and Engineering, Mechanical and Automation Engineering, Mechatronics Engineering, Petrochemical Engineering, Chemical and Electrochemical Engineering, Petrochemical Technology, Pharmaceutical Technology and Textile Chemistry)

(Regulations 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Kirchoff's current law.
2. What is the main difference between Moving Coil and Moving Iron instruments?
3. Write any four applications of DC motors.
4. Why single phase induction motor is not self starting?
5. How do you define voltage regulation?
6. What is the function of amplifier?
7. What are the logic gates?
8. What is the use of counters?
9. What is mean by modulation?
10. What are the salient features of microwave communication?

PART B — (5 × 16 = 80 marks)

11. (a) An alternating voltage is given by $V = 230 \sin 314t$. Calculate
(i) Frequency (ii) Maximum value (iii) Average value (iv) RMS value. (16)

Or

- (b) Explain the construction and operation of single phase dynamometer type watt meter. (16)

12. (a) Explain the different types of DC motors with neat sketch. (16)

Or

- (b) Explain the principle of operation of single phase Transformer and derive its EMF equation. (16)

13. (a) Describe the operation of PN junction diode with the help of V-I characteristics. (16)

Or

- (b) Explain the input and output characteristics of Bipolar Junction Transistor in common emitter configuration. (16)

14. (a) Write brief notes on different types of flip-Flop with its truth table. (16)

Or

- (b) Explain the operation of any one type of Digital to Analog converter with its schematic diagram. (16)

15. (a) Explain the principle of Amplitude Modulation with its spectrum. (16)

Or

- (b) Draw the block diagram of optical fibre communication system and explain it. (16)