

C 3213

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

Second Semester

(Regulation 2004)

Polymer Technology

EE 1163 — ELECTRICAL AND ELECTRONICS ENGINEERING

(Common to Bio-Technology)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State Ohm's Law with simple circuit.
2. Define power and power factor.
3. What are the Characteristics of motors?
4. What are the different types of transformers?
5. Mention the importance of moving coil Instruments.
6. What is an extrinsic semiconductor?
7. Define voltage regulation of a rectifier.
8. What are the advantages and drawbacks of a class A amplifier?
9. Mention the uses of an monostable multivibrator.
10. Draw a circuit diagram of an integrator.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the performance analysis of single phase AC circuits and derive the average value, RMS value, Form factor and Instantaneous value.

Or

- (b) With neat sketches explain in detail the dynamometer type wattmeters.

12. (a) Draw and explain the Construction of a DC generator and also derive the emf equation of a DC generator.

Or

- (b) (i) What are the various methods of speed control of a D.C shunt motor and explain any one type.

- (ii) Draw and explain the core type and shell type transformers.

13. (a) (i) Explain the energy band theory and pn junction.

- (ii) Draw and explain the VI characteristics of Zener diode.

Or

- (b) What are the various applications of half wave and full wave rectifiers and explain any one type with circuit and waveforms.

14. (a) What is meant by Bi-polar junction transistor and explain the characteristics of CB and CC configuration.

Or

- (b) With a circuit Diagram, explain the operation of C -type power amplifiers and also explain the principles of tuned amplifiers.

15. (a) With a circuit Diagram, explain the operation of Harley Oscillator.

Or

- (b) With a Circuit diagram, explain the operation of astable multivibrator.