

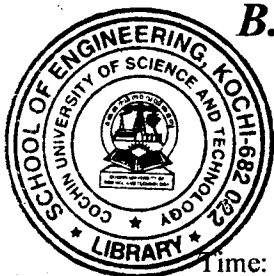
B.Tech. Degree II Semester Regular and Supplementary / I Semester Supplementary Examination May 2017

CE/EE/ME/SE GE IS-1205 A & CS/EC/IT GE 15-1105 B
BASIC ELECTRONICS ENGINEERING

(2015 Scheme)

Time: 3 Hours

Maximum Marks: 60



PART A

(Answer *ALL* questions)

(10 × 2 = 20)

- I. (a) Explain the working of a light emitting diode.
- (b) Draw and explain the forward and reverse characteristics of a diode.
- (c) Compare RC and LC oscillators.
- (d) Explain the Barkhausen criteria.
- (e) Convert the binary number 1011.01 to decimal and hexadecimal numbers.
- (f) Explain the working of an ammeter.
- (g) Realize XOR gate using only NOR gates.
- (h) Draw the transfer characteristics of ideal filters and explain.
- (i) Draw the circuit of a diode AM demodulator and explain.
- (j) What is meant by biasing a diode? Explain.

PART B

(4 × 10 = 40)

- II. (a) Explain the working of bridge rectifier. (6)
- (b) Explain the working of transistor switch. (4)

OR

- III. (a) Explain the input and output characteristics of common base transistor configuration. (4)
- (b) Explain how different types of extrinsic semiconductor materials are obtained. (6)

- IV. (a) Explain the working of RC coupled common emitter amplifier. (6)
- (b) Explain the working of crystal oscillator. (4)

OR

- V. (a) Explain the working of RC phase shift oscillator. (5)
- (b) Explain the working of SMPS. (5)

- VI. (a) Explain the architecture of microprocessor. (6)
- (b) State and prove Demorgan's law. (4)

OR

- VII. Draw the block diagram of CRO and explain the working. (10)

- VIII. Write notes on: (10)

- (i) Sampling.
- (ii) Quantization.
- (iii) Systems.
- (iv) Signals.

OR

- IX. (a) Explain amplitude modulation used in analog communication systems. (4)
- (b) Prove that bandwidth required for the amplitude modulation is twice the frequency of the information signal. (6)