

**THIRD SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2009**

CE 04 306 – ELECTRICAL AND ELECTRONICS ENGINEERING

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

- I. (a) (i) Compare series, parallel RLC circuits.  
(ii) Define Kirchhoff's Laws. (3 + 2 = 5 marks)
- (b) (i) Define : (a) Slip ; (b) Torque.  
(ii) Write notes on losses.
- (c) List any *two* wiring methods with its advantages and disadvantages.
- (d) Write the ratings for following appliances : (i) Mixer ; (ii) Frying pan ; (iii) Heater ;  
(iv) Washing machine ; (v) Projector.
- (e) Explain the operation of forward biased, Reverse biased PN Junction.
- (f) Define the following terms :  
(i) Line regulation.  
(ii) Load regulation.  
(iii) Ripple factor.  
(iv) Efficiency.  
(v) PIV.
- (g) Define the following :  
(i) Transducers ; (ii) Optocouples ; (iii) Torque ; (iv) Force.
- (h) Write short notes on XY recorder. (8 × 5 = 40 marks)

- II. (a) Explain in detail the generation of 3-phase e.m.f. voltage and current.

*Or*

- (b) Explain the constructional features and types of 3-phase induction motor.

**Turn over**

- III. (a) Discuss about the fluorescent lighting with a neat sketch. Mention its advantages and disadvantages.

*Or*

- (b) Explain in detail electrical estimation of residential buildings.

- IV. (a) Draw and explain the circuit diagram of single-phase FWR with filter. Derive the expression for average voltage, current ripple factor.

*Or*

- (b) Draw and explain the circuit diagram of CE amplifier.

- V. (a) Explain the method used for measurement of humidity.

*Or*

- (b) Discuss about various recording instruments.

(4 × 15 = 60 marks)