C 59103   **(Pages : 2)**   Name.....................................

                                                      Reg. No................................

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)