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Name.....

Reg. No.....

**THIRD SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
DECEMBER 2012**

CE 04 306—ELECTRICAL AND ELECTRONICS ENGINEERING

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) Explain, what is meant by a balanced three-phase voltage system.
- (b) Explain Star-Delta methods of starting 3-phase induction motor.
- (c) Explain with diagram the working principle of a fluorescence tube.
- (d) What are the various types of lump circuit ?
- (e) Give the mechanism of hole current flow in a semiconductor.
- (f) Explain the V-I characteristics of Zener diode.
- (g) Explain briefly closed-loop transducer system.
- (h) Draw and explain the block-diagram of cathode-ray oscilloscope.

(8 × 5 = 40 marks)

2. (a) Describe the construction and working principle of 3-phase induction motor.

Or

- (b) Why single-phase induction motor is not self starting? Explain different methods of starting.

3. (a) Give the Indian Electricity rules for domestic equipments.

Or

- (b) Explain clearly how electrical estimation of residential building is done.

4. (a) With neat sketch, explain the working of :

(i) Centre-tap full-wave rectifier.

(ii) Full wave bridge rectifier.

Or

- (b) Describe the operation of a NPN transistor.

(5 marks)

- (c) Draw and explain the working of :

(i) LC filter.

(ii) Capacitor filter.

(10 marks)

5. (a) (i) List out and explain the potential applications of CRO.

(ii) Explain the different methods used for measurement of flow and moisture.

Or

- (b) Explain the principle of operation of a recording instrument with neat block diagram.

[4 × 15 = 60 marks]