

Roll No .....

**MI - 404****B.E. IV Semester**

Examination, June 2015

**Electrical and Electronic Instrumentation***Time : Three Hours**Maximum Marks : 70*

**Note:** i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

**Unit - I**

1. a) What are DC machines?
- b) What are AC machines?
- c) Discuss the characteristics of DC machines.
- d) Give the construction and principle working of induction motor.

OR

Discuss the torque slip characteristics of synchronous motor.

**Unit - II**

2. a) What is the function of Relay?
- b) Name the types of circuit breakers.

- c) Explain about the earth fault protection.
- d) Discuss about the DC 2 and 3 wire system.

OR

Discuss about the AC 3 and 4 wire system.

**Unit - III**

3. a) What is the function of Rectifier?
- b) Name the types of Rectifier.
- c) Discuss the application of thyristor for speed control.
- d) Discuss the working of bridge type full wave rectifier.

OR

Discuss the working principle of voltage regulator circuit using zener diode.

**Unit - IV**

4. a) Differentiate between FET and MOSFET.
- b) Write applications of FET.
- c) Write six applications of OPAMPS.
- d) Discuss the characteristics and principle operation of MOSFET.

OR

Discuss the principle working of OPAMP as Instrumentation amplifier.

**Unit - V**

5. a) What is the function of transducer?
- b) What are analog and digital transducer.
- c) Classify transducer according to application.
- d) Discuss the construction and principle of operation of LVDT.

OR

Discuss the construction and principle of operation of strain gauge.

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