II B. Tech I Semester Regular Examinations, November 2015
BASIC ELECTRONICS
(Information Technology)

Time: 3 Hours   **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
          Answer any **FOUR** questions from **Part-B**. All Questions carry equal Marks.

PART-A
6 × 2 = 12M

1. Define mass action law.

2. Differentiate between static and dynamic resistance of p-n junction diode.

3. What is electronic filter? Give its classification.

4. Define Intrinsic Standoff ratio of UJT.

5. How does transistor act as a switch?

6. Differentiate between BJT and FET.

PART-B
4 × 12= 48M

1. a) What are active and passive components? Classify and give example. (4M)

   b) What is Hall Effect? Explain its significance. Derive an expression for Hall coefficient. (8M)

2. a) Discuss the current components of PN diode. (6M)

   b) Explain the VI characteristics of PN diode. (6M)

3. a) Explain the operation of SCR and its characteristics with neat diagram. (8M)

   b) Why UJT is called so? Brief its VI characteristics. (4M)

4. a) What is an electronic filter? Discuss types of filters. (6M)

   b) How does a Zener diode differ from normal PN diode? Explain its working as voltage regulator, explain with a neat sketch. (6M)

5. a) Explain voltage divider biasing of BJT. (6M)

   b) Discuss the working principle of NPN and PNP transistors. Mention the current components. (6M)

6. a) Differentiate between BJT, JFET and MOSFET. (6M)

   b) Explain working of JFET as a voltage variable resistor. (6M)

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