

**BASIC
ELECTRONICS**

2nd Exam/COMP/2661/Dec-2011

TIME ALLOWED: 3 Hrs
MARKS: 75

MAX

SECTION: A

- Q1. Attempt any ten Parts 1.5 X 10=15
- a. In N-type semiconductor, _____ are the minority carriers.
 - b. Semiconductor have _____ Bond
 - c. The merging of free electron & Hole is called _____
 - d. A Crystal diode act as a/an _____ switch.
 - e. An Ideal crystal diode has _____ forward Resistance.
 - f. The value of Knee voltage for Silicon diode is _____
 - g. Filter circuits are used to reduce _____
 - h. In transistor, base is Very _____
 - i. Give Full form of MOSFET
 - j. The function of transistor is to _____
 - k. The efficiency of Half Wave Rectifier is _____
 - l. PIV stands for _____

SECTION: B

- Q2. Attempt any five questions 6 X 5=30
1. Draw the atomic structure of Germanium. What do you mean by Minority carriers, majority carrier & Doping?
 2. What do you mean by Diode? Explain Forward Biasing of Diode.
 3. Explain shunt capacitor Filter.
 4. How BJT is differ from JFET.
 5. Explain the phase reversal of Output voltage with respect to input voltage.
 6. Explain Zener Breakdown & Avalanche Breakdown.
 7. Derive the relation between α and β , α and β .
 8. List different types of Diode. Explain Schottky Diode.

SECTION: C

- Q3. Attempt any three questions 10 X 3=30
1. What do you mean by Rectifier? Explain Diode as a Full Wave Rectifier.
 2. What is Transistor? What are the functions of Emitter, Base & Collector? Explain the working of PNP transistor.
 3. Explain the construction, operation & characteristics of MOSFET in depletion mode.
 4. What are the different types of Biasing Ckt. Explain potential Divider Biasing in detail?
 5. What are the use of AC load Line in calculation of Current & voltage Gain of single stage amplifier circuit.