

S.B. Roll No.....

BASIC ELECTRONICS

2nd Exam/ECE/ETV/ECE-II/COMP/CSE/IT/EEE/0664/May'18

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.

15x1=15

- a. N-type semiconductors are formed by adding impurities to a pure semiconductor.
- b. Efficiency of half wave rectifier is
- c. Center-Tap transformer is used in Wave rectifier.
- d. Filter circuits are used to reduce
- e. The value of knee voltage for silicon diode is Volt.
- f. Zener diode is made to operate in Region.
- g. In BJT, leakage current mainly depends on
- h. The point of intersection of dc and ac load line is called
- i. A.C. load line of a transistor is steeper than its D.C. load line. (T/F)
- j. The best biasing method is achieved by adopting biasing circuit.
- k. JFET stands for
- l. MOSFET is a Controlled device.
- m. The emitter and collector regions of BJT is and Doped.
- n. Free electrons exists in band.
- o. When both the junctions of a transistor are forward biased, it is said to be in region.

SECTION-B

Q2. Attempt any five questions.

5x6=30

- i. Explain with suitable diagram Intrinsic and Extrinsic semiconductors.
- ii. What is Zener diode? Draw its symbol and explain its characteristics.
- iii. Explain the working of half wave rectifier.
- iv. Explain the working of NPN transistor.
- v. Explain the difference between FET and BJT.
- vi. What do you mean by h parameters of transistors?
- vii. In what way the temperature variations affect the operating point of a transistor?
- viii. Explain the phase reversal of output voltage with respect to input voltage in an amplifier.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain conductors, insulators and semiconductors on the basis of their energy band diagram.
- b. Draw circuit of a full wave bridge rectifier and explain its working. Draw the output waveform.
- c. Explain PN junction and draw the V-I characteristics of PN junction.
- d. Explain the input and output characteristics of CE configuration. Derive the relation between α and β .
- e. Write a short note on **(any two)**
 - i. Light Emitting Diode
 - ii. Drift and Diffusion current
 - iii. Filter circuits.