S.B. Roll No……

ELECTRONICS-I

3rd Exam/Elect/0525/Nov'18

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Fill in the blanks. **15x1=15**

a. The electronic components which cannot process the signal are called _____.
b. The process of adding impurities in intrinsic semiconductor material is called _____.
c. Resistivity of a semiconductor lies between _____.
d. The value of knee voltage for silicon diode is _____ volts.
e. An ideal diode has _____ reverse resistance.
f. A zener diode is always operated in the _____ region.
g. _____ Diode has a negative resistance.
h. In a transistor, there are _____pn junctions.
i. The emitter of a transistor is doped _____.
j. The biasing circuit which gives best stability to the Q point is _____.
k. The ideal value of stability factor is _____.
l. A transistor with its associated circuitry for amplification is called a _____.
m. In an amplifier, power gain = current gain x _____ gain.
n. The point at which DC and AC load lines interact each other is called _____.
o. A FET has three terminals namely; source, drain and _____.

SECTION-B

Q2. Attempt any five questions. **5x6=30**

i. What are practical and ideal current and voltage sources?
ii. List the main differences between intrinsic and extrinsic semiconductors?
iii. Draw and explain V-I characteristics of P-N junction diode.
iv. What is the use of filter circuit? List different types of filters.
v. What do you mean by Saturation, Cut-off and Active regions?
vi. What are different types of couplings used in transistor amplifier?
vii. Write advantages and disadvantages of FET.

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. With the help of circuit diagram and waveforms, explain the functioning of a full-wave rectifier.
b. Explain zener diode, its characteristics and applications.
c. Draw and explain the circuit of common-emitter configuration of transistor and its characteristics.
d. Describe the construction, operation and characteristics of FET with suitable diagrams.