Q.27 Draw a neat and clean diagram of a transistor in CE configuration with Input and output characteristics with explanation.

Q.28 What is the difference between Conductors and Insulators?

Q.29 How a diode behaves when it is forward biased and reversed biased?

Q.30 Compare : BJT and JFET.

Q.31 Explain single stage transistor amplifier.

Q.32 Define FET with its construction and working.

Q.33 Explain the phenomenon of current flow in an N-Type semi conductor.

Q.34 Compare CB, CE & CC configurations.

Q.35 Explain the constructional diagram, symbol and types of a transistor.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 What is MOSFET? Explain its construction, modes of operation & characteristics with labelled diagrams.

Q.37 What are semi-conductor? Classify them & explain the mechanism of current flow through them with diagrams.

Q.38 What is a Rectifier? Draw neat and clean labelled circuit diagram of a full wave bridge Rectifier and explain it with output wave form.

2nd Sem / Comp. ECE., IT, & control, Mechatronics Med. Eltx., Eltx. &Instr. Power Eltx, EEE
Sub.: Basic Electronics/Analog Eltx.

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 In a N-Type semi conductor majority charge carriers are:

a) Holes b) Positive lons
c) Negative lons d) Electrons

Q.2 Semi-conductors have_____ number of valence electrons.

a) 3 b) 6
c) 4 d) 5

Q.3 CB configuration has

a) Low input and Higher output resistance
b) Higher input and lower output resistance
c) Low input and output resistance
d) High input and output resistance

Q.4 The function of a coupling capacitor in an amplifier is

a) To prevent DC mixing the output
b) To match the impedance
c) To limit the band width
d) None of these

Q.5 Improper biasing leads to

a) Distortion in output b) Distortion in input

c) Heaving loading d) All of these

Q.6 FET has

a) Large Input Impedance

b) Large Output Impedance

c) Large Power Gain

d) High Voltage Gain

Q.7 The process of adding an impurity to a pure semi-conductor is called_____.

a) Pinching off b) Recombination

c) Doping d) Thermal Generation

Q.8 A varactor diode is optimized to :

a) High Output Voltage

b) High Output Current

c) Its Variable Capacitance

d) Its Variable Inductance

Q.9 The collector of a transistor is doped

a) Heavily b) Lightly

c) Moderately d) None of these

Q.10 The ripple factor for a half wave rectifier is

a) 0.482 b) 1.21

c) 0.05 d) 1.1

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Draw the symbol of a Zener Diode.

Q.12 In an atom, the number of protons is equal to the number of electrons. (True/False)

Q.13 When a p-type semiconductor is sandwitched between two n-type then it forms _____ transistor.

Q.14 FET is an _____ device (Unipolar/Bipolar)

Q.15 What is Drift Current?

Q.16 What do you mean by Junction Capacitance?

Q.17 Clamping is the process of introducing a D.C. _____ into an A.C. signal.

Q.18 What is Pentavalent Impurity?

Q.19 What is Clipping?

Q.20 What is Amplifier?

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 What is a Filter? Explain Shunt Capacitor and LC. filters.

Q.22 Explain Photo Diode and Tunnel Diode with symbol.

Q.23 What is CMOS? Also write its advantages and applications.

Q.24 Draw the diagram of Fixed Bias Biasing Circuit and explain it.

Q.25 Draw the atomic structure and write the atomic number of Germanium.

Q.26 Explain the concept of AC and D.C. Load line & its use in transistor.