

- Q.25 Why CE configuration is mostly used in amplifiers? (CO3)
- Q.26 Explain the working of half wave rectifier. (CO2)
- Q.27 Draw and explain the VI characteristics of a diode. (CO2)
- Q.28 Explain rectification efficiency. (CO2)
- Q.29 Draw the output characteristics of a CE configuration amplifier. (CO3)
- Q.30 Draw the atomic structure of a Ge atom. (CO1)
- Q.31 What do you mean by extrinsic semiconductor? What is its importance? (CO1)
- Q.32 What is junction capacitance PN junction?
- Q.33 Difference between P and N type semiconductor?
- Q.34 Write four differences of JFET and BJT. (CO6)
- Q.35 Draw any biasing circuit and explain its working. (CO4)

SECTION-D

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

- Q.36 Explain the construction and V I characteristics of FET.
- Q.37 Explain the working of a single phase CE amplifier with the help of circuit diagram and AC load line. (CO5)
- Q.38 Draw the circuit of a bridge rectifier and explain its working with the help of waveforms. (Co2)
(Note: Course outcome/CO is for office use only)

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**Comp, ECE, IT, I & C Mechatronics, Med. Eltx ,
 Eltx & Instr., Power Eltx, EEE
 Subject:- Basic Electronics / Analog Electronics**

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 A semiconductor is formed by _____ bonds. (CO1)
 a) Covalent b) Electrovalent
 c) Cor-ordinate d) None of the above
- Q.2 When a pentavalent impurity is added to a pure semiconductor, it becomes _____ (CO1)
 a) An insulator
 b) An intrinsic semiconductor
 c) p-type semiconductor
 d) n-type semidconductor
- Q.3 A trivalent impurity has _____ valence electrons. (Co1)
 a) 4 b) 5
 c) 6 d) 3
- Q.4 A forward biased pn junction diode has a resistance of the order of (CO2)
 a) Ω b) $k\Omega$
 c) $M\Omega$ d) None of the above
- Q.5 _____ are used to convert AC into DC. (CO2)
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- a) Rectifying diodes b) Switching diodes
 c) Varactor diodes d) Tunnel diodes
- Q.6 Operating point represents _____ (CO4)
 a) Values of I_c and V_{CE} when signal is applied
 b) The magnitude of signal
 c) Zero signal values of I_c and V_{CE}
 d) None of the above
- Q.7 The circuit that provides the best stabilization of operating point is _____ (CO4)
 a) Base resistor bias
 b) Collector feedback bias
 c) Potential divider bias
 d) None of the above
- Q.8 A transistor is a _____ operated device (CO3)
 a) current
 b) voltage
 c) both voltage and current
 d) none of the above
- Q.9 The input impedance of a transistor connected in _____ configuration is the highest (CO3)
 a) common emitter b) common collector
 c) common base d) none of the above
- Q.10 Which transistor is preferred for applications of High power? (CO6)
 a) BJT b) UJT
 c) MOSFET d) JFET

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 As the doping to a pure semiconductor increases, the bulk resistance of the semiconductor _____ (CO1)
- Q.12 The cut in or the knee voltage of the silicon diode is _____ (CO2)
- Q.13 What will be the reading of voltmeter, if it is connected using an unbiased Germanium PN junction diode? (CO2)
- Q.14 What is clipper circuit? (CO2)
- Q.15 $I_c = \beta I_b + \dots$ (CO3)
- Q.16 If input frequency is 50Hz for a full wave rectifier, its ripple frequency would be _____ (CO2)
- Q.17 For proper amplification by a transistor circuit, the operating point should be located at the _____ of the d.c. load line. (CO4)
- Q.18 The base of a transistors is _____ doped. (CO3)
- Q.19 Define Diffusion current. (CO2)
- Q.20 FET has high input impedance(True/False) (CO6)

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 List two advantages of CMOS. (CO6)
- Q.22 Draw the energy level diagram of a semiconductor and explain. (CO1)
- Q.23 Write any two advantages of CMOS. (CO6)
- Q.24 Draw the circuit and input output waveforms of a positive clamper. (CO2)