Roll no._____ **ID: 220824**

Semester: 2nd

Branch: Computer

Subject Name: Analog Electronics

Time Allowed : 3 Hrs. **MM: 60**

Section –A

Note: Multiple Choice questions. All questions are compulsory. 6x1=6

Q.1 FET is a _____ device.
(a) Tripolar (b) Unipolar
(c) Bipolar (d) None

Q.2 Addition of pentavalent impurity to a semiconductor creates many_____.
(a) Free electrons (b) Holes
(c) Valence charged (d) Bound electron

Q.3 in a NPN transistor the emitter current is mainly due to_____.
(a) Holes (b) Electrons
(c) Protons (d) None

Q.4 Complementary PUSH PULL amplifier uses____ amplifiers.
(a) Two (b) One
(c) Four (d) None

Q.5 A semiconductor has _____ temperature coefficient of resistance.
(a) Positive (b) Negative
(c) Zero (d) None of the above

Q.6 For highest power gain, we use_____ transistor configuation
(a) CA (b) CC
(c) CB (d) CE

Section-B

Note: Objective/Completion type questions. All questions are compulsory. 6x1=6

Q.7 Expand FET.
Q.8 What is regulator?
Q.9 What is Integrator circuit?
Q.10 What is multivibrator?
Q.11 What is Heat Sink?
Q.12 What is Donor impurities?

Section –C

Note: Short answer type Questions. Attempt any eight questions out of ten questions. 8x4= 32

Q.13 Explain reverse bias characteristics of Zener diode.
Q.14 Explain difference between Intrinsic and Extrinsic Semiconductor.
Q.15 Explain the working of N type enhancement mode MOSFET.
Q.16 Explain relation between alpha and beta.
Q.17 Explain working of 7805.
Q.18 Explain OP-AMP as differentiator.
Q.19 Explain low pass and high pass active filters.
Q.20 Explain thermal runaway and stabilization.
Q.21 Explain half wave rectifier working.
Q.22 What is feedback and advantages of negative feedback?

Section-D

Note: Long answer questions. Attempt any two questions out of three questions. 2x8=16

Q.23 Explain timers and its block diagram and its PIN diagram.
Q.24 Explain working of Class A amplifier with its advantages and disadvantages.
Q.25 Explain transistor as a switch and give applications of FET.