EDLC

QP Code : 28703

(3 Hours) [Total Marks : 100

N.B. : (1) Question No.1 is Compulsory.
(2) Attempt any four out of remaining questions.

1. (a) Compare BJT and JFET 5
(b) Sketch the transfer characteristic curve for P channel JFET with I_{DSS} = 5mA, V_p = 4V. 5
(c) Draw and explain the block diagram of OPAMP. 5
(d) List characteristic features of 555 timer. 5

2. (a) Explain the Graphical determination of the h-parameters using characteristics curves of common emitter amplifier. 10
(b) Derive the Q point valves (V_{DQ} & I_{DQ}) and current gain Ai for voltage divider Network for CE configuration. 10

3. (a) Derive equations of Zi, Zo, Av for common source configuration using voltage divider network (with unbypassed Rs.) 10
(b) Explain the construction and working of JFET with its characteristic curves. 10

4. (a) Explain how an Op Amp can be used as: 10
(i) Integrator
(ii) Differentiator
(iii) Summing Amplifier.
(b) Using practical Op Amp realize the following relation - 10
$V_0 = 5V_1 + 3V_2 - 5V_3$

5. (a) Explain CMRR and PSRR and an OPAmp. 5
(b) Explain OP Amp as a ZCD. 5
(c) Explain instrumentation Amplifier using 3OP - AMPs and Derive the expression for voltage gain. 10

6. (a) Explain IC 555 timer as a monostable multivibrator with neat waveforms 10
(b) Design a +9V regulator using LM723 for current limit of 100mA. 10

7. Write short notes on (any two): 20
(a) PLL
(b) Inverting schmitt trigger
(c) D/A converter using R 2P resistor.

GE-Con. 10521-16.