Sample Question Paper – I

9042

Course Name :- Electronics & Video Engineering
Course code :- EV
Semester :- Third
Subject :- Electronic Circuit and Application
Duration :- 3 hours **Marks: 80**

Instructions :

1] All questions are compulsory.
2] Figures to the right indicates full marks.
3] Use of non-programmable calculator is permissible.

Q 1: - Attempt any Eight **16 Marks**

a) Draw a symbol of 1) Photodiode 2) Phototransistor.
b) Draw characteristic of UJT.
c) List the specification of MOSFET.
d) What is the necessity of tuned circuit?
e) State Barkhausen criteria.
f) What is the necessity of wave shaping circuit?
g) Define Bandwidth
h) Define 1) line regulation 2)load regulation.
i) How Schmitt trigger is different from multivibrator?
j) List the IC's used for voltage-regulated power supply.

Q 2: - Attempt any Three **12 Marks**

a) Explain working principle of UJT
b) Draw constructional diagram of n-channel and p-channel JFET.
c) What are the advantages of negative feed back?
d) Draw and explain RC phase shift oscillator.

Q 3: - Attempt any Three **12 Marks**

a) Draw neat circuit. diagram of transistorized colpitt oscillator and give formula for output frequency.
b) What is stagger tuning? How it employed in the tuned voltage amplifier.
c) What are the application of RC integrator (any four)
d) With neat sketch explain the working of astable multivibrator.

Q 4: - Attempt any Two **16 Marks**

a) What are the types of FET biasing circuit? Explain any one in detail.
b) Draw and explain transistorized series voltage regulator.
c) What are the types of current time base generator? Explain in detail bootstrap Generator.

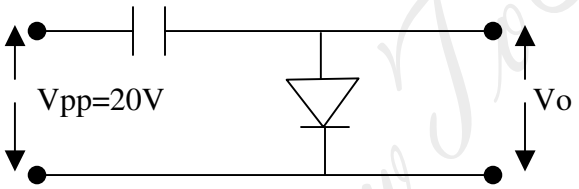
Q 5: - Attempt any Three **12 Marks**

a) Draw circuit diagram of single tuned amplifier by showing I/p and o/p waveform
b) What are the types of nonlinear circuit?
c) How transistor acts as switch? Explain with neat sketch.
d) Draw and explain Schmitt trigger circuit with I/p o/p waveform.

Q 6: - Attempt any three **12 Marks**

a) Compare series and parallel resonance circuit. w.r.t. following point.
   1) Frequency response 2) impedance at resonance
   3) Bandwidth 4) current at resonance

b) Identify the circuit. and also draw I/p and o/p waveform of following circuit.



c) Illustrate the troubleshooting approach in astable multivibrator.
d) Describe wave shaping and also explain why it is needed in practical application?