

Q.34 Discuss the pin configuration of IC 741.

Q.35 What is UPS? What are its types?

### SECTION-D

**Note:** Long Answer type question. Attempt any two questions. (2x10=20)

Q.36 Explain with the help of diagram, the working of double tuned voltage amplifier. Also explain its frequency response.

Q.37 Explain the working of Complementary push pull amplifier. What are its advantages and disadvantages?

Q.38 Write a short note on any two:-

- a) Diode clamper circuit
- b) Single tuned amplifier
- c) Collector efficiency

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**Branch :** Elect., Power Station Eng., Elect. & Eltx. Eng.

**Subject :** Electronics-II

**Time :** 3 Hrs.

**M.M. :** 100

### SECTION-A

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

Q.1 In class A amplifier, collector current flows for \_\_\_\_\_

- a) Less than half cycle
- b) Half the cycle
- c) Entire Cycle
- d) Less than entire cycle

Q.2 The phase angle of series RLC at resonance is \_\_\_\_\_

- a)  $-90^\circ$
- b)  $+90^\circ$
- c)  $0^\circ$
- d)  $180^\circ$

Q.3 Gain bandwidth product of an amplifier after introducing the negative feedback \_\_\_\_\_

- a) remains the same
- b) decreases
- c) Increases
- d) None of the above

Q.4 We use a crystal oscillator because \_\_\_\_\_

- a) It gives high output voltage
- b) It works at high efficiency
- c) the frequency of oscillations remains constant
- d) It requires very low dc supply voltage

Q.5 When RC circuit is used as integrator circuit, out put is taken across \_\_\_\_\_

- a) source
- b) capacitor
- c) resistor
- d) None of the above

- Q.6 For transistor to work as switch it is operated in \_\_\_\_\_  
 a) Cut off region      b) active region  
 c) Saturation region      d) Inverted region
- Q.7 The output waveform of 555 timer is \_\_\_\_\_  
 a) Sinusoidal      b) Triangular  
 c) Rectangular      d) Elliptical
- Q.8 The output of IC 7812 is \_\_\_\_\_  
 a) -12V      b) +12V  
 c) -8V      d) -8V
- Q.9 Operational amplifier amplify \_\_\_\_\_  
 a) AC only      b) DC only  
 c) AC and DC both      d) None of the above
- Q.10 When negative feedback is used in operational amplifier \_\_\_\_\_  
 a) Input resistance increases  
 b) Output resistance decreases  
 c) bandwidth increases  
 d) All of the above

### SECTION-B

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

- Q.11 What do you mean by power amplifier?  
 Q.12 What is the efficiency of Class A amplifier?  
 Q.13 What is cross over distortion?  
 Q.14 Define the term tank circuit.  
 Q.15 What is high pass filter?

- Q.16 What is the resonant frequency of Colpitt's oscillator?  
 Q.17 What do you mean by comparator circuit?  
 Q.18 What are the types of multivibrator?  
 Q.19 Define the term CMRR.  
 Q.20 What do you mean by offset voltage?

### SECTION-C

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

- Q.21 Differentiate between Class A, Class B and Class C amplifiers as regards to their operation.  
 Q.22 What are the merits of tuned voltage amplifier?  
 Q.23 What is the effect of negative feedback on bandwidth of an amplifier?  
 Q.24 Explain the Barkhausen criteria for oscillations.  
 Q.25 How an amplifier is different from an oscillator?  
 Q.26 What are the features of emitter follower circuit?  
 Q.27 Discuss the operation of Hartley oscillator?  
 Q.28 Draw and explain integrator using op-amp.  
 Q.29 Briefly explain positive clipper diode circuit with the help of diagram.  
 Q.30 Discuss the types of voltage regulator.  
 Q.31 How heat sinks are beneficiary in power amplifiers?  
 Q.32 Discuss the operation of monostable multivibrator using 555 timer.  
 Q.33 How an op-amp can be act as adder circuitary?