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**3rd Sem / Eltx, Mecatronics, Med. Eltx, Power Eltx,
Elect. & Eltx. Engg.**

**Subject:- Electronics Devices and Circuits / Analog
Eltx. - II**

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The lower and upper cut off frequency is also known as

- a) Half power frequency
- b) 3dB frequency
- c) Both a and b
- d) None of these

Q.2 The most costly coupling is _____ coupling.

- a) RC
- b) Direct
- c) Impedance
- d) Transformer

Q.3 Which feedback is used in amplifiers

- a) Positive feedback
- b) Negative
- c) Both
- d) None

Q.4 Which device can be used as a switch

- a) Transistor
- b) Transformer
- c) Resistor
- d) None of these

Q.5 Emitter follower is used for

- a) Current gain
- b) Impedance matching
- c) Voltage gain
- d) None of the above

Q.6 A tuned circuit uses

- a) R-L
- b) R-C
- c) L-C
- d) Purely resistive element

Q.7 Resonance occurs in LC circuit when

- a) $X_L > X_C$
- b) $X_L < X_C$
- c) $X_L = Q X_C$
- d) $X_L = X_C$

Q.8 Which multivibrator is having two stable states

- a) Astable
- b) Monostable
- c) Bistable
- d) Both (a) and (b)

Q.9 The IC - 741 op-amp have following number of pin

- a) three
- b) four
- c) six
- d) eight

Q.10 The output voltage of 7815 IC voltage regular

- a) -5 v
- b) + 12 v
- c) -9 v
- d) + 15 v

SECTION-B

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

Q.11 A 555 IC is a _____ pin IC.

Q.12 Write full form of CMRR.

Q.13 A monostable multivibrator has _____ stable state.

Q.14 Tuned voltage amplifiers are not used in public address system. (True/False)

Q.15 Define Resonance.

Q.16 An oscillator circuit must satisfy _____ criterion.

Q.17 A tuned circuit is an essential component of all types of oscillator circuits. (True/False)

Q.18 Positive feedback occurs when feedback voltage and input voltage are in same phase with each Other. (True/False)

Q.19 Power amplifiers are also known as large signal amplifier. (True/False)

Q.20 Define Bandwidth of an amplifier.

SECTION-C

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

Q.21 Give difference between voltage amplifier and power amplifier.

Q.22 Explain impedance matching.

Q.23 What is the importance of heat sinks in power amplifier?

Q.24 Explain Barkhausen criterion of oscillations.

Q.25 Explain emitter follower circuit with circuit diagram

Q.26 Describe Hartley oscillator.

Q.27 Describe single tuned voltage amplifier.

Q.28 Explain the working of transistor as a switch.

Q.29 Explain IC 555 as monostable multivibrator.

Q.30 Define CMRR and PSRR.

Q.31 Define line regulation and load regulation.

Q.32 Describe three pin IC voltage regulators.

Q.33 Explain the working of class A amplifiers.

Q.34 Explain the term slew rate and input offset current.

Q.35 Explain need and gain of multistage amplifier.

SECTION-D

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

Q.36 Explain IC 741 operational amplifier with block diagram.

Q.37 Describe complementary symmetry push pull amplifier in detail.

Q.38 Explain the working of phase shift oscillator in detail with circuit diagram.