

No. of Printed Pages : 4 181031/171031/121031
Roll No. /031031

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

Subject:- Electronics Devices and Circuits / Analog

Time : 3Hrs. **Eltx. - II** 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) $X_L = X_C$ d) $X_L = Q X_C$
- 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

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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.

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- 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.

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