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**Eltx, Mecatronics , Med. Eltx, Power Eltx, Elect.
& Eltx. Engg**

Subject:- Electronic Devices & Circuits / Analog Eltx.II

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Transformer coupled amplifiers are used for amplification of _____
a) RF signal b) audio signal
c) microwave signal d) None of the above
- Q.2 If power gain is 100, then in decibel, it is
a) 20dB b) 10dB
c) 40dB d) None of the above
- Q.3 The operating point of amplifier may shift due to _____
a) temperature variation
b) replacement of transistor
c) humidity variation
d) All of the above
- Q.4 The collector efficiency of amplifier is maximum for _____
a) Class A b) Class B
c) Class C d) Class AB

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- Q.5 The effects of negative feedback are following except _____
a) reduction in gain
b) reduction in output resistance
c) increase in distortion
d) increase in bandwidth
- Q.6 The material with the piezo-electric effect is _____
a) Quartz b) Tourmaline
c) Rochelle salt d) All of the above
- Q.7 When RC circuit is used as differentiator, the output is taken across _____
a) Capacitor b) resistor
c) source voltage d) None of the above
- Q.8 The monostable multivibrator has _____ stable state.
a) one b) two
c) no d) None of the above
- Q.9 555 timer consists of _____
a) comparator b) RS Flip flop
c) transistor and resistor d) All of the above
- Q.10 For an ideal operational amplifier, value of CMRR is _____
a) zero b) infinity
c) moderate d) none of the above

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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 power dissipation capability?
- Q.13 What is positive feedback?
- Q.14 Define the term tuned amplifier.
- Q.15 What is high pass filter?
- Q.16 What is the resonant frequency of Wein's bridge oscillator?
- Q.17 What do you mean by comparator circuit?
- Q.18 What is the width of output pulse in 555 timer monostable multivibrator?
- Q.19 Define the term Slew rate.
- Q.20 What do you mean by SMPS?

SECTION-C

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

- Q.21 What are the advantages of multi stage amplifier?
- Q.22 Explain the working of class A power amplifier.
- Q.23 Give classification of power amplifier on the basis of selection of operating point.
- Q.24 What are the advantages of negative feedback?
- Q.25 Why heat sink is used in power amplifier.
- Q.26 What are the features of emitter follower circuit?

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- Q.27 Give the necessary conditions for producing the undamped oscillations.
- Q.28 Explain with diagram, the working of Colpitt's oscillator.
- Q.29 Explain the necessary condition of resonance for parallel resonant circuit.
- Q.30 How does a high pass filter is constructed using RC circuit?
- Q.31 What is a clamper circuit? Give its classification.
- Q.32 What are the ideal characteristics of an op-amp?
- Q.33 What is a voltage regulator? Where it is used in electronic circuits?
- Q.34 Explain operation of op-amp as differentiator circuit.
- Q.35 Discuss the operation of astable multivibrator using 555 timer.

SECTION-D

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

- Q.36 Explain with the help of diagram, the working of integrator circuit using operational amplifier.
- Q.37 Explain the working and construction of RC phase shift oscillator.
- Q.38 Discuss the construction, working principle of two stage RC coupled amplifier. Also explain its frequency response for low frequency and high frequency.

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