

No. of Printed Pages : 4  
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181031/171031  
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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 distortion is maximum in \_\_\_\_\_ type of amplifier.  
a) Push Pull                      b) Class A  
c) Class B                        d) Class C
- Q.2 In Class A amplifier, operating point is located at:  
a) Center of load line    b) Near saturation  
c) Cut of point                d) None of these
- Q.3 RC coupled amplifiers are used for amplification of \_\_\_\_\_.  
a) Microwave signal    b) RF signal  
c) Audio signal              d) None of these
- Q.4 Gain of an emitter follower is  
a) Unity                        b) 10  
c) 50                              d) 100

(1)                      181031/171031  
                            /121031/031031

- Q.5 With negative feedback, the distortion of an amplifier \_\_\_\_\_.  
a) Increase                      b) Decrease  
c) Unchanged                  d) None of these
- Q.6 Heat sink is mostly used in  
a) Small signal amplifier  
b) Large signal amplifier  
c) Audio signal amplifier  
d) all of these
- Q.7 In phase shift oscillator produces a phase shift of  
a)  $0^\circ$                               b)  $90^\circ$   
c)  $180^\circ$                           d)  $360^\circ$
- Q.8 OP-Amp amplifies  
a) AC only                        b) DC only  
c) AC and DC                    d) None
- Q.9 When resonance occur in series or parallel resonant circuit, the circuit behaves as  
a) Inductive                      b) Capacitive  
c) Resistive                        d) None of these
- Q.10 Transistor can be used as \_\_\_\_\_ for application.  
a) Amplifier                      b) Switch  
c) Inverter                        d) All

(2)                      181031/171031  
                            /121031/031031

### SECTION-B

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

- Q.11 Class\_\_\_\_\_ amplifier has highest collector efficiency.
- Q.12 Define collector efficiency.
- Q.13 If three stages of multistage amplifier have individual gain of 10db, 15db 25db, then find total gain.
- Q.14 Positive feedback increase amplifier gain. (True/False)
- Q.15 At resonance in series RLC, impedance  $Z = \underline{\hspace{2cm}}$ .
- Q.16 What is Piezoelectric crystal effect?
- Q.17 PSRR stands for\_\_\_\_\_.
- Q.18 Negative feedback is employed in oscillator. (True/False)
- Q.19 What will be the output of IC 7812 if apply input is 24v?
- Q.20 Astable multivibrator has\_\_\_\_\_ stable state.

### SECTION-C

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

- Q.21 Derive the expression of gain with negative feedback of an amplifier.
- Q.22 Explain Direct coupled Amplifier.
- Q.23 Explain the working of Emitter follower circuit.
- Q.24 Explain the working of class B power amplifier.

(3) 181031/171031  
/121031/031031

- Q.25 Differentiate between voltage and power amplifier.
- Q.26 What are the essentials of an oscillator.
- Q.27 Explain IC555 as monostable multivibrator.
- Q.28 What is feedback? Write about its types and its need.
- Q.29 Explain working principle of IC voltage regulator.
- Q.30 List any five characteristics of an ideal OP-Amp.
- Q.31 Draw the circuit diagram of Hartley oscillator and explain it.
- Q.32 Explain the operation of single tuned voltage amplifier with the help of circuit diagram.
- Q.33 What are the importances of impedance matching in power amplifier?
- Q.34 Differentiate between series and parallel resonance.
- Q.35 Explain OP-Amp as integrator.

### SECTION-D

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

- Q.36 Write the effect of negative feedback on voltage gain stability, bandwidth and output impedance of an amplifier.
- Q.37 Explain the operation of astable multivibrator with the help of transistor circuit diagram. Also write the applications of multivibrators.
- Q.38 Explain the operation of class B Push Pull amplifier circuit and write its advantages and disadvantages.

(1280) (4) 181031/171031  
/121031/031031