

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E/ EEE	Year / Semester : II/III	Format No.	NAC/TLP-07a.13
Subject Code : EC8353	Subject Name : Electronic Devices & Circuits	Rev. No.	02
Unit No : V	Unit Name : Feedback Amplifiers & Oscillators	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	Voltage shunt feedback amplifier forms A) A Negative Feedback B) A Positive Feedback C) Both Positive And Negative D) None Of The Mentioned	L4
2	The value of feedback resistor and resistor connected in series with the input signal source are equal to 10kΩ and 3.3kΩ. Calculate the closed loop voltage gain? A) -6.7 B) -33 C) -13.3 D) -3.33	L4
3	Write the formula for closed loop voltage gain of inverting amplifier with feedback using open loop voltage gain and gain of feedback circuit A) $A_F = A/(1+AB)$ B) $A_F = -A/(1+AB)$ C) $A_F = -B/(1+AB)$ D) None Of The Mentioned	L4
4	Voltage shunt feedback amplifiers are also called as A) Non-Inverting Amplifier With Feedback B) Non-Inverting Amplifier Without Feedback C) Inverting Amplifier With Feedback D) Inverting Amplifier Without Feedback	L4
5	The output resistance of the op-amp with feedback is A) Same As That Of The Output Resistance Without Feedback B) Greater Than That Of The Output Resistance Without Feedback C) Smaller Than That Of The Output Resistance Without Feedback D) None Of The Mentioned	L4
6	Find the output current in the voltage series feedback amplifier. A) $I_o = \{ [V_o + (A \cdot V_{id})] / R_o \}$ B) $I_o = \{ [V_o - (A \cdot V_{id})] / R_o \}$	L4

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	<p>C) $I_o = (V_o/R_o) * A$ D) $I_o = [A * (V_o - V_{id})] / R_o$</p>	
7	<p>Find the unity gain bandwidth for voltage series feedback amplifier?</p> <p>a) UBG = Af_o b) $UBG = Af_F$ c) $UBG = Af_o f_F$ d) $UBG = A_F f_o$</p>	L4
8	<p>Which is preferred to attain higher input resistance and the output amplitude equal to input?</p> <p>A) Voltage Follower B) Voltage Series Feedback Amplifier C) Voltage Shunt Feedback Amplifier D) Inverter</p>	L4
9	<p>Voltage follower is also called as</p> <p>A) None Of The Mentioned B) Non-Inverting Amplifier C) Inverting Amplifier D) Normal Buffer</p>	L4
10	<p>When the non-inverting input terminal of an op-amp is equal to that of the inverting input terminal (ideally)</p> <p>A) $A \rightarrow \infty$ B) $V_{id} \cong 0$ C) $A_F = 1 + (R_F / R_1)$ D) All Of The Mentioned</p>	L4
11	<p>Which of the following is not an example for non-sinusoidal oscillator?</p> <p>A) Sawtooth Generators B) Blocking Oscillators C) Multivibrator D) Crystal Oscillators</p>	L4
12	<p>Which of the following is not an LC oscillator?</p> <p>A) Hartley Oscillator B) Colpitts Oscillator</p>	L4

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	<p>C) Crystal Oscillator D) Clapp Oscillator</p>	
13	<p>The sinusoidal oscillator is also called _____</p> <p>A) LC Oscillator B) Harmonic Oscillator C) RC Oscillator D) Crystal Oscillators</p>	L4
14	<p>Which type of oscillators are used in timing elements?</p> <p>A) RC Oscillator B) LC Oscillator C) Crystal Oscillator D) Weinbridge Oscillators</p>	L4
15	<p>Which of the following oscillator is not using a feedback network for its oscillation?</p> <p>A) LC Oscillator B) RC Oscillator C) Crystal Oscillator D) Relaxation Oscillators</p>	L4
16	<p>Low frequency oscillators have a frequency range of _____</p> <p>A) 20 Hz-20K Hz B) 20 Hz -100k Hz C) 1 Hz -20k Hz D) 50 Hz -100k Hz</p>	L4
17	<p>High frequency oscillators have a frequency range of _____</p> <p>A) 300K Hz-2G Hz B) 100k Hz-500k Hz C) 8k Hz-800K Hz D) 4K Hz-1G Hz</p>	L4
18	<p>Which of the following oscillator cannot be used in low frequency oscillations?</p> <p>A) Wein Bridge Oscillators B) RC Phase Shift Oscillators C) Colpitts Oscillators</p>	L4

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	D) RC Oscillators	
19	<p>Which of the following oscillator is will give most stable output oscillation frequency?</p> <p>A) Colpitts Oscillator B) Clapp Oscillator C) Wein Bridge Oscillator D) Crystal Oscillator</p>	L4
20	<p>Relaxation oscillators are also known as _____</p> <p>A) Multivibrator B) Phase Shift Oscillators C) Blocking Oscillators D) Saw Tooth Generator</p>	L4
21	<p>RC phase shift oscillators contain a minimum of _____ Phase shift network.</p> <p>A) 1 B) 2 C) 3 D) 0</p>	L4
22	<p>Total phase shift provided by all phase shift networks in RC phase shift oscillator is _____</p> <p>A) 180 Degrees B) 60 Degrees C) 120 Degrees D) 360 Degrees</p>	L4
23	<p>Which of the following is not a reason for beginning oscillations in RC phase shift oscillator?</p> <p>A) Phase Shift Network B) Noise Inherent In Transistor C) Minor Variations In The Voltage DC Source D) Square Wave Signal</p>	L4
24	<p>Frequency of oscillation for three section RC phase shift network is given by _____</p> <p>A) $1/(\pi\sqrt{6} RC)$ B) $2/(\pi\sqrt{6} RC)$ C) $1/(2\pi\sqrt{6} RC)$ D) $1/(2\sqrt{6} RC)$</p>	L4

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25	Distortion level in the output of RC phase shift network will be less than _____ A) 1% B) 2% C) 5% D) 10%	L4
26	In a Wien bridge oscillator, it is found that at the frequency ω_0 there is no phase shift in R_F/R gain loop and the phase shift of the amplifier is also zero. Then what is the equation for the radian frequency, given R_1, C_1 is the series network of bridge and R_2, C_2 is the parallel network? A) $\Omega_0=1/R_1C_1$ B) $\Omega_0=1/R_2C_2$ C) $\Omega_0=1/R_1R_2C_1C_2$ D) $\Omega_0=1/RFC_1RC_2$	L4
27	For any Wien Bridge oscillator, $R_1 = R_2$ and $C_1 = C_2$ always in the bridge, provided the phase shift through the amplifier is zero. A) True B) False	L4
28	Lower frequencies are not practically possible in the case of Harley oscillator because of the requirement of low _____ value. A) Capacitance B) Resistance C) Inductance D) Gain	L4
29	Which type of feedback is used by Hartley oscillator? A) Voltage Series Feedback B) Current Series Feedback C) Voltage Shunt Feedback D) Current Shunt Feedback	L4
30	Which of the following network is used to give feedback to transistor of Hartley oscillator? A) Inductive Fixed Bias B) Capacitive Fixed Bias C) Inductive Voltage Divider	L4

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	D) Capacitive Voltage Divider	
31	The frequency of Hartley oscillator is expressed as _____ A) $1/(4\pi\sqrt{LC})$ B) $1/(2\pi\sqrt{LC})$ C) $1/(3\pi\sqrt{LC})$ D) $\sqrt{3}/(2\pi\sqrt{LC})$	L4
32	Which type of feedback is used by Colpitts oscillator? A) Voltage Series Feedback B) Current Series Feedback C) Voltage Shunt Feedback D) Current Shunt Feedback	L4
33	Which component of Colpitts oscillator is used in feedback system? A) Inductor B) Resistor C) Capacitor D) Transistor	L4
34	Capacitive circuit configuration in Colpitts oscillator improves _____ A) Bulkiness B) Frequency Stability C) Impedance D) Appearance	L4
35	RFC choke is placed in Colpitts oscillator instead of resistor is to provide _____ A) High Impedance To DC B) High Resistance To DC C) Low Resistance To DC D) Less Bulkiness	L4
36	Which configuration of the transistor amplifier is used for Hartley oscillator? A) Common Emitter Amplifier B) Common Collector Amplifier C) Common Base Amplifier D) Combination Of Both Common Emitter And Common Collector	L4

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37	<p>The Hartley oscillator is less preferred than due to Colpitts oscillator's performance in _____</p> <p>A) All Frequency Region B) Mid Frequency Region C) High Frequency Region D) Low Frequency Region</p>	L4
38	<p>The frequency of Colpitts oscillator is expressed as _____</p> <p>A) $1/(4\pi\sqrt{LC})$ B) $1/(2\pi\sqrt{LC})$ C) $1/(3\pi\sqrt{LC})$ D) $\sqrt{3}/(2\pi\sqrt{LC})$</p>	L4
39	<p>If C1 and C2 are the capacitance used in Colpitts oscillator the effective capacitance in the equation of frequency calculation is equal to _____</p> <p>A) $(\pi \times C1 \times C2)/(C1 + C2)$ B) $3(C1 \times C2)/(C1 + C2)$ C) $(C1 \times C2)/(2\pi(C1 + C2))$ D) $(C1 \times C2)/(C1 + C2)$</p>	L4
40	<p>Which configuration of transistor amplifier is used for Colpitts oscillator?</p> <p>A) Common Emitter Amplifier B) Common Collector Amplifier C) Common Base Amplifier D) Combination Of Both Common Emitter And Common Collector</p>	L4