

Program: SE

Curriculum Scheme: Revised 2016

Examination: Second Year Semester III

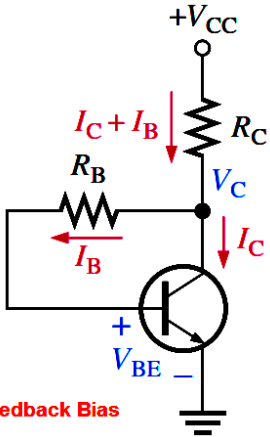
Course Code: ECC402

Course Name: Electronics and devices circuit-II

Time: 1-hour

Max. Marks: 50

Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	<p>Identify type of Negative Feedback in following circuit.</p>  <p style="color: red; text-align: center;">Collector Feedback Bias</p>
Option A:	Voltage series
Option B:	Voltage shunt
Option C:	Current series
Option D:	Current series
Q2.	If the output of an amplifier is 10 V and 100 mV from the output is fed back to the input, then feedback fraction is
Option A:	10
Option B:	1
Option C:	15
Option D:	0.01
Q3.	When negative voltage feedback is applied to an amplifier, its voltage gain
Option A:	increases
Option B:	decreases
Option C:	No change
Option D:	Increases/decreases
Q4.	Emitter follower is a circuit.

Option A:	Voltage feedback
Option B:	Current feedback
Option C:	Both voltage and current feedback
Option D:	No feedback
Q5.	In class A Power Amplifier power dissipation in transistor under no signal condition is _____.
Option A:	Less
Option B:	More
Option C:	Twice the power dissipation under signal condition
Option D:	Same as Power dissipation under signal condition
Q6.	Heat sink is used in Power transistor to
Option A:	Increase Maximum Power dissipation rating of transistor
Option B:	Decrease Maximum Power dissipation rating of transistor
Option C:	No change in maximum power dissipation rating of transistor
Option D:	Increase/Decrease Maximum Power dissipation rating of transistor
Q7.	In class AB Power Amplifier in a following figure 1, what is a use of diode.
Option A:	Remove cross over distortion
Option B:	Provide Temperature compensation
Option C:	Improves efficiency
Option D:	Improves Voltage gain
Q8.	In audio system speaker needs 10Watt of output power, calculate P_{Qmax} for

	transistor for Class A and Class B Power Amplifier. Select a suitable Power Amplifier for Audio system.
Option A:	Class A Power Amplifier
Option B:	Class B Power Amplifier
Option C:	Class A and Class B Power Amplifier both
Option D:	Class A or Class B Power Amplifier
Q9.	In class B push pull Power Amplifier deliver 8W of audio power to output load if transformer efficiency 80%. Calculate P_{dc}
Option A:	12.73W
Option B:	11.31W
Option C:	13.4W
Option D:	11.13W
Q10.	In Class A Power Amplifier output power is 5W, $V_{CC} = 20V$, $I_{CQ} = 0.65 A$. Determine efficiency of Power Amplifier.
Option A:	46%
Option B:	38.46%
Option C:	50%
Option D:	78.5%
Q11.	Find frequency of wein bridge oscillator $R=1K\Omega$, $C=0.1\mu f$
Option A:	1.59KHz
Option B:	159KHZ
Option C:	15.9KHZ
Option D:	0.159KHZ
Q12.	Crystal oscillator is used for _____.
Option A:	Low frequency, High Q
Option B:	High frequency, High Q
Option C:	Low frequency, Low Q
Option D:	High frequency, Low Q
Q13.	While designing an amplifier for TV application, which amplifier will be selected?
Option A:	CE- CE Amplifier

Option B:	Darlington Pair
Option C:	Cascode Amplifier
Option D:	Transformer coupled power amplifier
Q14.	For NMOS transistor which of the following is not true?
Option A:	The substrate is of p-type semiconductor
Option B:	Inversion layer or induced channel is of n type
Option C:	Threshold voltage is negative
Option D:	Used in VLSI
Q15.	For N channel MOSFET $I_{DQ} = 1\text{mA}$, $K_n = 0.85\text{mA/V}^2$, $V_{TN} = 0.8\text{V}$, Find V_{GS} .
Option A:	1.88V
Option B:	2.3V
Option C:	0.8V
Option D:	0V
Q16.	Select the amplifier for a given specifications $A_v = 100$, $R_i = 1\text{M}\Omega$
Option A:	CS-CS Amplifier
Option B:	CS-CE Amplifier
Option C:	CE-CE Amplifier
Option D:	CE-CS Amplifier
Q17.	Configuration used in Cascode Amplifier
Option A:	CE-CE
Option B:	CE-CB
Option C:	CB-CE
Option D:	CE-CC
Q18.	Select which is not a feature of Darlington
Option A:	Combination of CC -CC configuration
Option B:	Voltage gain 1
Option C:	Input Resistance Low
Option D:	Output resistance High
Q19.	Which coupling method introduces HUM in frequency response?
Option A:	Direct Coupling
Option B:	Transformer Coupling
Option C:	RC Coupling
Option D:	LC coupling
Q20.	In a 2 stage CE – CE amplifier $A_{V1} = 20$, $A_{V2} = 30$. Find total voltage gain.
Option A:	50
Option B:	600
Option C:	400
Option D:	900

Q21.	In household inverter need to increase number of loads following some suggested modification. 1. Capacity of Battery 2. Increase driving capacity by current gain of an Amplifier 3. Modify Bandwidth of an Amplifier 4. Modify Voltage gain of an Amplifier. select the suitable option
Option A:	3 & 4
Option B:	2 & 3
Option C:	1 & 2
Option D:	3 & 1
Q22.	While designing an amplifier for TV application, which amplifier will be selected?
Option A:	CE- CE Amplifier
Option B:	Darlington Pair
Option C:	Cascode Amplifier
Option D:	CS-CS Amplifier
Q23.	In hartly oscillator positive feedback is provided by
Option A:	L-C Network
Option B:	R-C Network
Option C:	Resistive network
Option D:	R-C network
Q24.	Advancement of technology in a product like mobile phone demands for compactness, less power dissipation, and more efficiency which component satisfies all requirement
Option A:	BJT (Bipolar Junction Transistor)
Option B:	JFET (Junction Field Effect Transistor)
Option C:	MOSFET (Metal Oxide Field Effect Transistor)
Option D:	Diode
Q25.	In MOSFET, the threshold voltage is the measure of the
Option A:	Minimum voltage to form channel
Option B:	Minimum voltage to turn of the device
Option C:	Maximum voltage to form channel
Option D:	Maximum voltage to turn of the device