Program: **Computer Engineering**

Curriculum Scheme: Rev2016

Examination: Third Year Semester III

Course Code: CSC304

Course Name: Electronic Circuits and Communication Fundamentals

Time: 1 hour Max. Marks: 50

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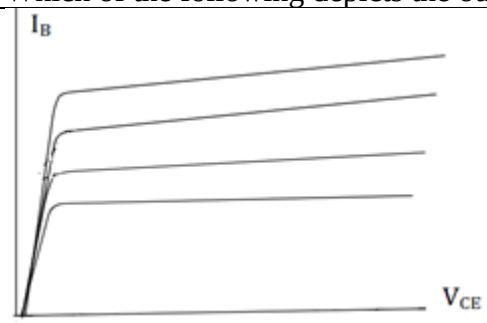
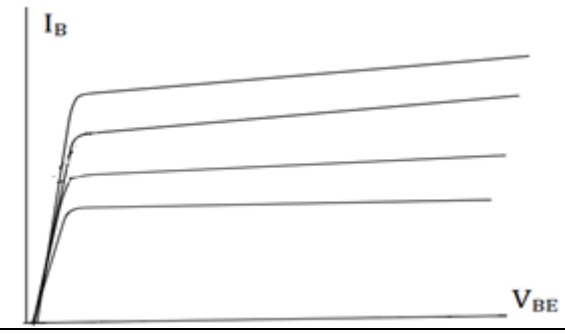
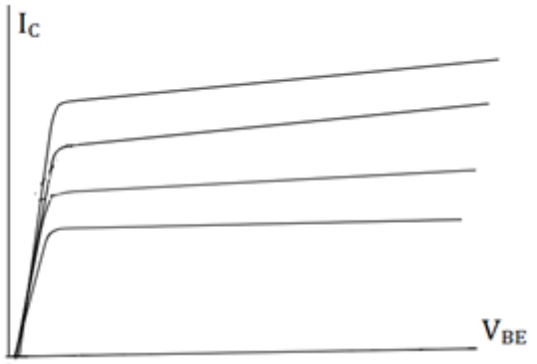
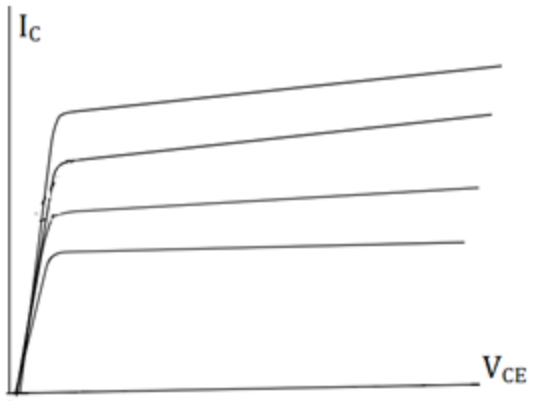
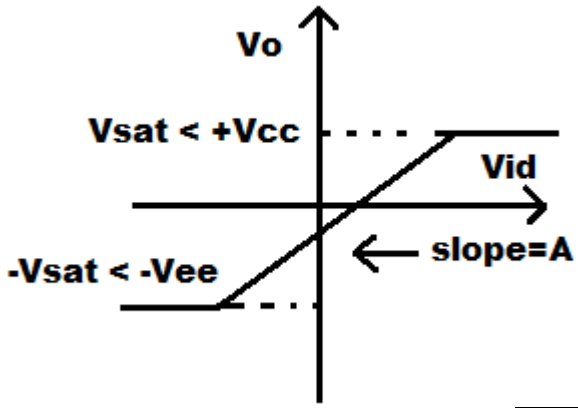
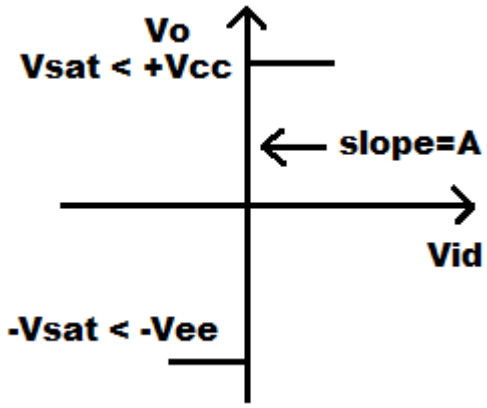
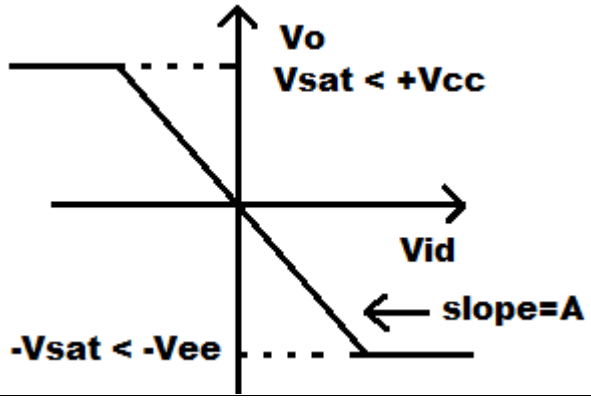
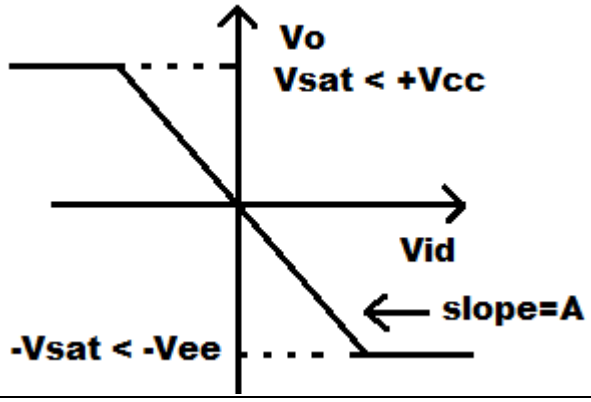
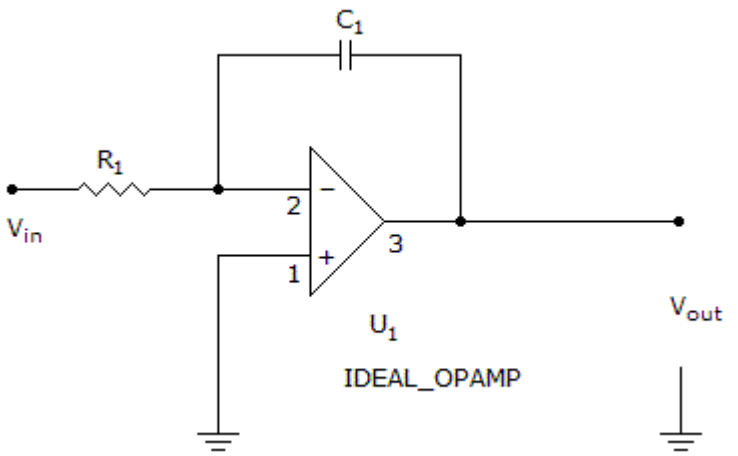
Q1.	The output resistance is given by _____
Option A:	ΔVCE/ΔIB
Option B:	ΔVBE/ΔIB
Option C:	ΔVBE/ΔIC
Option D:	ΔVCE/ΔIC
Q2.	If Voltage divider at base transistor is 5V and base current is 5uA than input resistance at base is
Option A:	1μΩ
Option B:	1mΩ
Option C:	1MΩ
Option D:	10 Ω
Q3.	Which of the following depicts the output characteristics of a CE transistor?
Option A:	
Option B:	

Option C:	
Option D:	
Q4.	The operating point of an NPN transistor amplifier should not be selected near the saturated region as it may
Option A:	Causes output signal to be clipped in positive half.
Option B:	Causes output signal to be clipped in negative half.
Option C:	Regular high DC supply
Option D:	Drive the transistor to thermal Runaway.
Q5.	If L1 and L2 are the inductance used in a Hartley oscillator, the effective inductance in the equation of frequency calculation is equal to (Without considering mutual inductance).
Option A:	(L1×L2)/(L1+L2)
Option B:	L2/(L1+L2)
Option C:	L1+L2
Option D:	L1-L2
Q6.	Which of the following is not a characteristics of crystal oscillator?
Option A:	Highly stable with time
Option B:	Highly stable with temperature
Option C:	Highly selective
Option D:	Frequency depends external resistors and capacitors
Q7.	Find the ideal voltage transfer curve of a normal op-amp.

Option A:	
Option B:	
Option C:	
Option D:	
Q8.	What is the modulation index value if Vmax=5.9v and Vmin=1.2v?
Option A:	0.5
Option B:	0.662

Option C:	0.425
Option D:	0.14
Q9.	How to keep the output voltage swing of the op-amp comparator within specific limits?
Option A:	External resistors or diodes are used
Option B:	External zeners or diodes are used
Option C:	External capacitors or diodes are used
Option D:	External inductors or diodes are used
Q10.	
Option A:	Sine wave
Option B:	Square wave
Option C:	Sawtooth wave
Option D:	Triangle wave
Q11.	The closed-loop voltage gain of an inverting amplifier equals:
Option A:	The ratio to the input resistance to the feedback resistance
Option B:	The open loop voltage gain
Option C:	The feedback resistance divided by the input resistance
Option D:	The input resistance
Q12.	A modulation index of 0.5 would be same as
Option A:	0.5 of Modulation Depth
Option B:	1/2% of Modulation Depth
Option C:	5% of Modulation Depth
Option D:	50% of Modulation Depth
Q13.	An AM transmitter has a percentage of modulation of 88. The carrier power is 440W. The power in one sideband is
Option A:	85W
Option B:	110W
Option C:	170W
Option D:	610W
Q14.	Which among the following is not necessarily the advantage of SSB over AM?
Option A:	required bandwidth for SSB is low

Option B:	less power handled
Option C:	complex circuit
Option D:	simple circuit
Q15.	A 100MHz carrier is frequency modulated by 10 KHz wave. For a frequency deviation of 50 KHz, calculate the modulation index of the FM signal.
Option A:	100
Option B:	50
Option C:	70
Option D:	90
Q16.	Maximum frequency deviation and the maximum bandwidth allowed for commercial FM broadcast is
Option A:	80KHz, 160Khz
Option B:	75KHz, 200Khz
Option C:	60KHz, 170Khz
Option D:	75KHz, 250Khz
Q17.	A PAM signal can be detected using
Option A:	Low pass filter
Option B:	High pass filter
Option C:	Band pass filter
Option D:	All pass filter
Q18.	The process of using a pulse signal to represent information is called _____
Option A:	Pulse modulation
Option B:	Frequency modulation
Option C:	Amplitude modulation
Option D:	Phase modulation
Q19.	In PWM signal reception, the Schmitt trigger circuit is used
Option A:	To remove noise
Option B:	To produce ramp signal
Option C:	For synchronization
Option D:	For asynchronization
Q20.	In Pulse Position Modulation, the drawbacks are
Option A:	Synchronization is required between transmitter and receiver
Option B:	Large bandwidth is required as compared to PAM
Option C:	Noise is increased
Option D:	Useful in less distance
Q21.	The information rate R for given average information H= 2.0 for analog signal band limited to B Hz is
Option A:	8 B bits/sec
Option B:	4 B bits/sec
Option C:	2 B bits/sec
Option D:	16 B bits/sec

Q22.	Information rate is defined as
Option A:	Information per unit time
Option B:	Average number of bits of information per second
Option C:	rH
Option D:	Average number of bytes of information per second
Q23.	According to Shannon Hartley theorem,
Option A:	The channel capacity becomes infinite with infinite bandwidth
Option B:	The channel capacity does not become infinite with infinite bandwidth
Option C:	Has not a tradeoff between bandwidth and Signal to noise ratio
Option D:	The channel capacity does not become finite with infinite bandwidth
Q24.	Zero crossing detectors is also called as
Option A:	Square to sine wave generator
Option B:	Sine to square wave generator
Option C:	Sine to triangular wave generator
Option D:	Triangular wave generator
Q25.	An astable multivibrator is also known as a:
Option A:	One shot multivibrator
Option B:	Free running multivibrator
Option C:	Bistable multivibrator
Option D:	Monostable multivibrator