University of Mumbai
Examination 2020

Program: Electronics Engineering
Curriculum Scheme: Rev2016
Examination: Second Year Semester III
Course Code: ELX302 and Course Name: Electronic Devices and Circuits - I
Time: 1 hour Max. Marks: 50

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

Q1.	The movement of the electron due to the presence of a potential gradient orelectric field is known as _____
Option A:	Diffusion
Option B:	Drift
Option C:	Early Effect
Option D:	Thermal agitation
Q2.	Which of the following is not a property of an ideal operational amplifier?
Option A:	Zero input impedance
Option B:	Infinite bandwidth
Option C:	Infinite open loop gain
Option D:	Zero common-mode gain or conversely infinite common mode-rejection
Q3.	What are the units of the slew rate?
Option A:	Second/Volt
Option B:	Volt/second
Option C:	It is a ratio, no units
Option D:	Ohm/second
Q4.	The unwanted characteristics of amplifier output apart from the desired output is collectively termed as _____
Option A:	Inefficiency
Option B:	Damage
Option C:	Fault
Option D:	Distortion
Q5.	Power amplifier directly amplifies _____
Option A:	Voltage of signal
Option B:	Current of the signal
Option C:	Power of the signal
Option D:	All of the mentioned
Q6.	Transistor in power amplifier is _____
Option A:	An active device
Option B:	A passive device
Option C:	An op-amp
Option D:	A voltage generating device
Q7.	For a perfect power amplifier output power rating will be _____ if the output impedance is halved.

Option A:	Halved
Option B:	Squared
Option C:	Doubled
Option D:	Square rooted
Q8.	The power rating of the amplifier is 100watts then the transistor can only operate at _____
Option A:	Power higher than 100w
Option B:	Power lower than 100w
Option C:	Power near to 100w
Option D:	Power lower than 200W
Q9.	A differential amplifier is capable of amplifying
Option A:	DC input signal only
Option B:	AC input signal only
Option C:	AC & DC input signal
Option D:	None of the Mentioned
Q10.	In an ideal Differential Amplifier, if the same signal is given to both inputs, then the output will be
Option A:	Same as input
Option B:	Double the input
Option C:	Not equal to zero
Option D:	Zero
Q11.	In Miller's theorem, what is the constant K?
Option A:	Total voltage gain
Option B:	Internal voltage gain
Option C:	Internal current gain
Option D:	Internal power gain
Q12.	In an NPN BJT, the collector is _____ in size and _____ doped.
Option A:	largest, moderately
Option B:	smallest, heavily
Option C:	largest, heavily
Option D:	smallest, moderately
Q13.	Due to early effect, base current _____.
Option A:	increases
Option B:	decreases
Option C:	remains constant
Option D:	varies exponentially
Q14.	Due to early effect, emitter current _____.
Option A:	increases
Option B:	decreases
Option C:	remains constant

Option D:	varies exponentially
Q15.	Condition for Zero drift biasing is : Vgs - Vp = _____
Option A:	0.53
Option B:	0.63
Option C:	0.93
Option D:	0.73
Q16.	FL is the frequency at which gain of amplifier falls to _____ times it gain at _____ frequency.
Option A:	0.5, mid
Option B:	0.707, high
Option C:	0.5, high
Option D:	0.707, mid
Q17.	FL is the frequency at which output power of the amplifier becomes _____ compared to output power at _____ frequency.
Option A:	half, high
Option B:	half, mid
Option C:	0.707 times, high
Option D:	0.707 times, mid
Q18.	In Miller theorem, if a capacitor C is connected between input and output of an amplifier with gain A, then C can be split in _____ part: _____
Option A:	2, Cmi - Cmo
Option B:	3, Cmi - Cmo - Cwo
Option C:	2, Cwi - Cwo
Option D:	NOTA
Q19.	In LF, Connected capacitors are _____; while stray capacitors are _____.
Option A:	considered, open.
Option B:	open, considered.
Option C:	short, open
Option D:	open, short
Q20.	In HF, Connected capacitors are _____; while stray capacitors are _____.
Option A:	shorted, considered.
Option B:	considered, shorted
Option C:	open, shorted
Option D:	shorted, open
Q21.	The collector current (I_C) that is obtained in a collector to base biased transistor is_____
Option A:	$(V_{CC}-V_{BE})/R_B$
Option B:	$(V_{CC}+V_{BE})/R_B$
Option C:	$(V_{CE}-V_{BE})/R_B$

Option D:	$(V_{CE}+V_{BE})/R_B$
Q22.	The thermal runway is avoided in a collector to base bias because_____
Option A:	of its independence of β
Option B:	of the positive feedback produced by the base resistor
Option C:	of the negative feedback produced by the base resistor
Option D:	of its dependence of β
Q23.	The demerit of a collector to base bias is_____
Option A:	its need of high resistance values
Option B:	its dependence on β
Option C:	its independence on β
Option D:	the positive feedback produced by the base resistor
Q24.	When the temperature is increased, what happens to the collector current after a feedback is given?
Option A:	it remains same
Option B:	it increases
Option C:	it cannot be predicted
Option D:	it decreases
Q25.	The negative feedback does good for DC signal by_____
Option A:	decreasing the gain
Option B:	increasing the gain
Option C:	stabilising the operating point
Option D:	increasing the stability factor