Program: SE

Curriculum Scheme: Revised 2016

Examination: Second Year Semester III

Course Code:ECC/320 **Course Name: Electronics and devices circuit-I**

Time: 1 hour Max. Marks: 50

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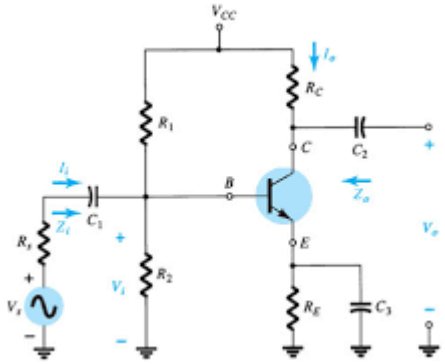
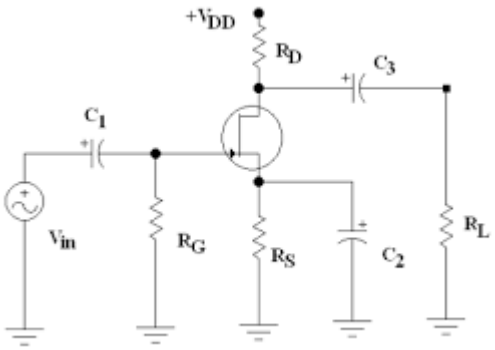
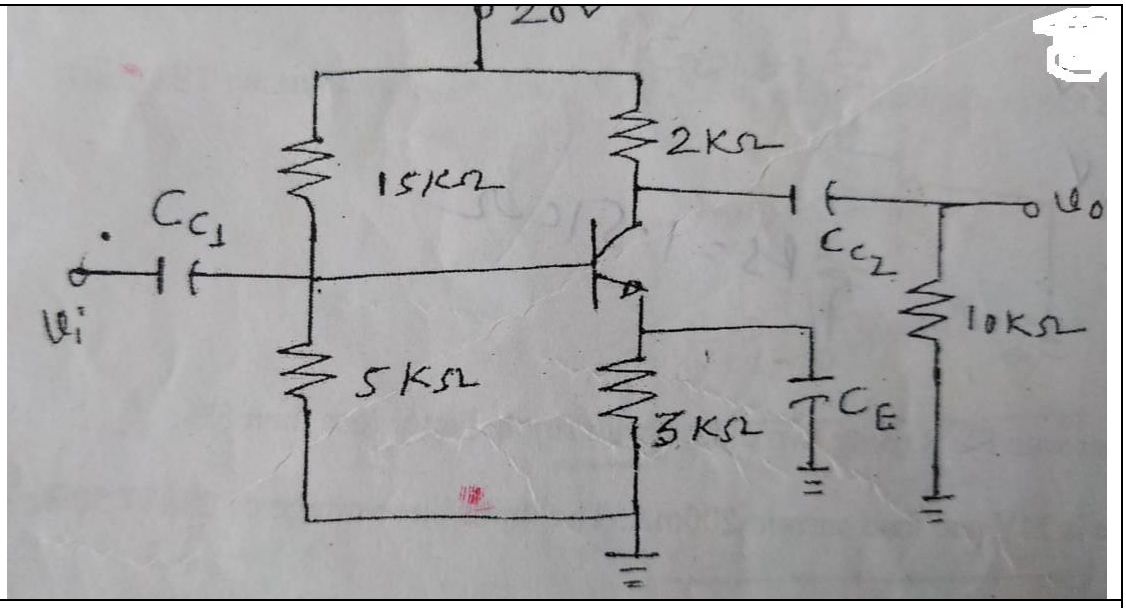
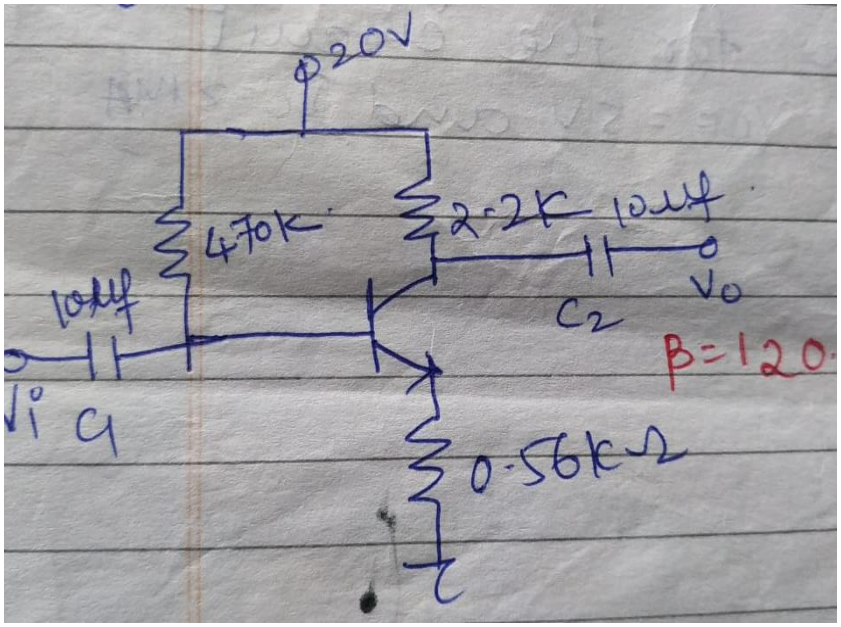
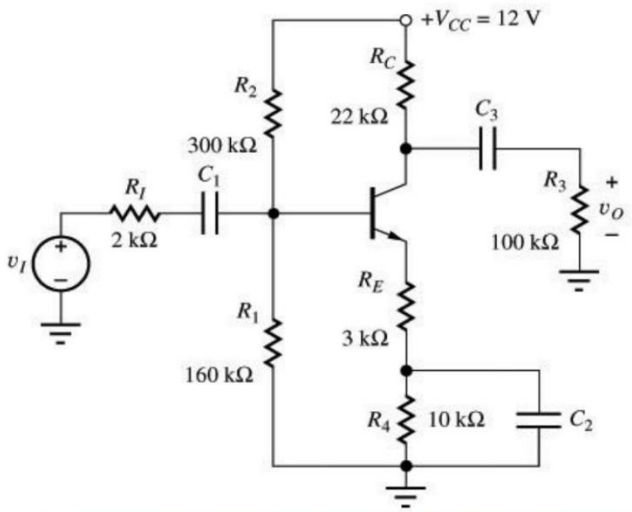
Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	If the temperature of a diode increases, then leakage current …….. and Base emitter voltage…….. .
Option A:	Increases, Increases
Option B:	Decreases, decreases
Option C:	Decreases, Increases
Option D:	Increases, decreases
Q2.	Load Regulation should be _____ and Line Regulation should be _____ for good power Supply.
Option A:	as low as possible, as high possible
Option B:	as low as possible, as low possible
Option C:	as high as possible, as high possible
Option D:	as high as possible, as low possible
Q3.	If the a.c. input to a half-wave rectifier is an r.m.s value of 400/√2 volts, then diode PIV rating is …….. And efficiency is ---------.
Option A:	400V, 40.6%
Option B:	400/√2V, 40.6%
Option C:	400V, 80.2%
Option D:	400/√2V, 80.2%
Q4.	The use of a capacitor filter in a rectifier circuit gives satisfactory performance only when the load …….. Calculate ripple factor f=50Hz, c=10uf, RL=1kΩ
Option A:	current is high,0.2886
Option B:	current is low,0.2886
Option C:	current is high,0.02886
Option D:	current is low,0.02886
Q5.	Calculate IB base current and Ic collector current Vcc=9V RB = 330KΩ RC = 1K Ω ,β = 100 for fixed bias circuit.
Option A:	25.15µA ,2.5mA
Option B:	2.5µA,2.5mA
Option C:	25.15µA,25.15mA
Option D:	2.6 µA,26mA

Q6.	In JFET IDSS=7mA, Vp=-2.5V,Vgs=-1.2V, find ID drain current and gm0.
Option A:	2.34mA,6.5ms
Option B:	1.89mA,5.6ms
Option C:	3.64mA,5.6ms
Option D:	0, infinite
Q7.	For a given circuit if CE capacitor is removed, what is an effect on voltage gain and input impedance. 
Option A:	Voltage gain increases, Input impedance increases
Option B:	Voltage gain decreases, Input impedance increases
Option C:	Voltage gain increases, Input impedance decreases
Option D:	Voltage gain decreases, Input impedance decreases
Q8.	For a given Amplifier Calculate voltage gain, IDSS=7mA, Vp=-2.5V Vgs =1.6V,gm0=5600µs,Rg=1MΩ,Rd=2KΩ,RL=10KΩ 
Option A:	-3.36
Option B:	4.032
Option C:	20.16
Option D:	5.06
Q9.	Calculate output resistance of an amplifier circuit. (use circuit of Q.8)
Option A:	10KΩ
Option B:	1.667KΩ
Option C:	2kΩ

Option D:	Infinite
Q10.	Select features of Common collector Amplifier. (more than one answer correct)
Option A:	used as an amplifier
Option B:	Output resistance low, Input resistance high
Option C:	Voltage gain =1
Option D:	Output resistance high, Input resistance low
Q11.	In CE amplifier RE bypassed if load resistor is given, Voltage gain is given by
Option A:	βRC /rπ
Option B:	-β(RC||RL) /rπ
Option C:	-βRC /rπ
Option D:	-βRC / (rπ ||RL)
Q12.	Q point is affected by temperature. Temperature dependent parameters are
Option A:	**β**
Option B:	VBE
Option C:	ICBO, **β**
Option D:	VBE,ICBO, **β**
Q13.	BJT is current controlled device
Option A:	IC current depends on IB current
Option B:	IB current depends on IC current
Option C:	IC current depends on VBE voltage
Option D:	IB current depends on VBE voltage
Q14.	To use JFET as an amplifier, it should be biased in
Option A:	Saturation Region
Option B:	Ohmic region
Option C:	Linear region
Option D:	Cut off region
Q15.	For a given Amplifier, calculate voltage gain of an amplifier. rπ = 1.5KΩ, β = 120

	
Option A:	184.61
Option B:	800
Option C:	160
Option D:	190
Q16.	For a circuit given in Q.15 calculate output resistance
Option A:	2KΩ
Option B:	10KΩ
Option C:	1.96kΩ
Option D:	Infinite
Q17.	Calculate IB for a circuit shown 
Option A:	33.125μA
Option B:	33.125mA

Option C:	6.625mA
Option D:	6.625 µA
Q18.	Calculate stability factor for given specifications Vcc=9V RB = 330KΩ RC = 1K Ω, β = 100 for fixed bias circuit.
Option A:	1
Option B:	Infinite
Option C:	100
Option D:	101
Q19.	To pass audio signal through an Amplifier select a suitable corner frequency
Option A:	F_H = 20Hz, FL = 20KHZ.
Option B:	F_H = 200KHz, FL = 2KHZ.
Option C:	F_H = 20kHz, FL = 20HZ.
Option D:	F_H = ∞Hz, FL = 0HZ.
Q20.	Calculate lower cut-off frequency F_{LC3} if C_3=1µf for a given circuit. 
Option A:	0HZ
Option B:	1.3HZ
Option C:	3.1HZ
Option D:	∞HZ
Q21.	Gain reduction in a low frequency region is due to _____.

Option A:	Coupling Capacitor
Option B:	Bypass Capacitor
Option C:	Coupling Capacitor and Bypass Capacitor
Option D:	Coupling Capacitor or Bypass Capacitor
Q22.	Which of the following condition is true for cut-off mode in transistor?
Option A:	The collector current Is zero
Option B:	The collector current is proportional to the base current
Option C:	The base current is nonzero
Option D:	All the mentioned
Q23.	While designing voltage Amplifier using BJT which of the following biasing technique is used?
Option A:	Voltage divider bias
Option B:	Fixed bias
Option C:	Collector to base bias
Option D:	Self-bias
Q24.	Select the configuration from the following for AV = 100, Ri = 1 MΩ
Option A:	CE Amplifier
Option B:	CE Amplifier RE un bypassed
Option C:	CS Amplifier
Option D:	CB Amplifier
Q25.	Condition for Zero Temperature drift is
Option A:	$\|VP\| - \|VGS\| = 0.63$
Option B:	$\|VP\| - \|VGS\| = 0.36$
Option C:	$\|VGS\| - \|VP\| = 0.63$
Option D:	VP – VGS = 0.63