

Sample Question Paper

Examinations Commencing from 7th January 2021 to 20th January 2021

Program: **Technology (Bachelor in Engineering)**

Curriculum Scheme:2019

Examination:SE SemesterIII

Course Code: and Course Name:AE

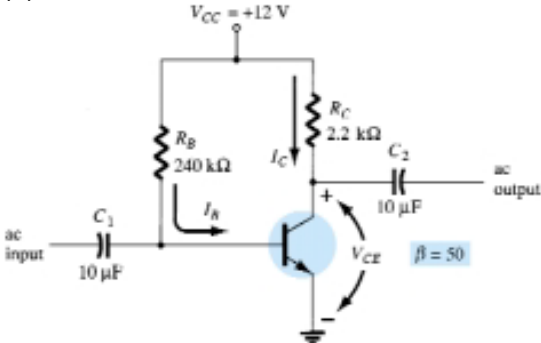
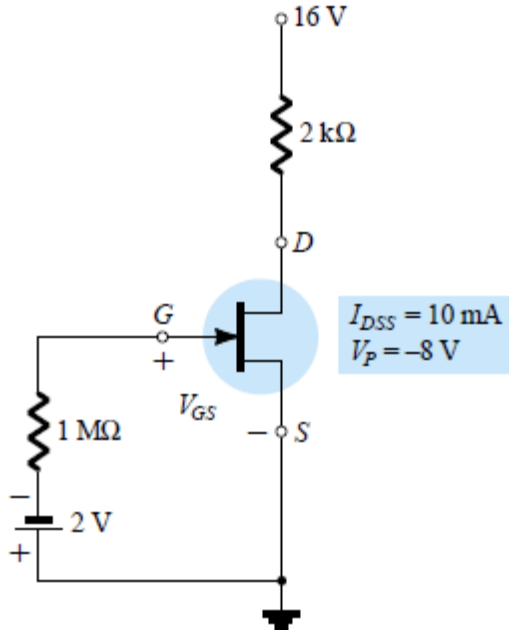
Time: 2 hour

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	For a transistor to operate in an active region what is the essential possible condition of biasing?
Option A:	Collector-base and emitter-base junctions are reverse biased.
Option B:	Collector-base junction is reverse biased and the emitter-base is forward biased
Option C:	Collector-base and emitter-base junctions are forward biased
Option D:	Collector-base junction is forward biased and emitter-base is reverse biased
2.	Which operating region of BJT enables Emitter-base & collector-base junctions to undergo perfect short-circuit configuration?
Option A:	Saturation Region
Option B:	Cut-off Region
Option C:	Active Region
Option D:	Reverse saturation
3.	What is the collector current when the base resistor is open?
Option A:	1 mA
Option B:	2 mA
Option C:	0
Option D:	10 mA
4.	A JFET is also called transistor
Option A:	unipolar
Option B:	bipolar
Option C:	unijunction
Option D:	polar
5.	A JFET is a driven device
Option A:	current
Option B:	voltage
Option C:	both current and voltage
Option D:	power
6.	When drain voltage equals the pinch-off-voltage, then drain current with the increase in drain voltage
Option A:	decreases

Option B:	increases
Option C:	remains constant
Option D:	fluctuates
7.	A MOSFET can be operated with
Option A:	negative gate voltage only
Option B:	positive gate voltage only
Option C:	positive as well as negative gate voltage
Option D:	No gate voltage
8.	A MOSFET is sometimes called JFET
Option A:	many gate
Option B:	open gate
Option C:	insulated gate
Option D:	shorted gate
9.	The change in output voltage for the corresponding change in load current in a 7805 IC regulator is defined as
Option A:	All of the mentioned
Option B:	Line regulation
Option C:	Load regulation
Option D:	Input regulation
10.	Which of the following is not a characteristic of adjustable voltage regulators?
Option A:	Non-versatile
Option B:	Better performance
Option C:	Increased reliability
Option D:	cheap
11.	Power amplifier directly amplifies _____
Option A:	Voltage of signal
Option B:	Current of signal
Option C:	Power of signal
Option D:	Frequency of signal
12. coupling is generally employed in power amplifiers
Option A:	Transformer
Option B:	RC
Option C:	direct
Option D:	Impedance
13.	A class A power amplifier uses
Option A:	Two transistors
Option B:	Three transistors
Option C:	One transistor
Option D:	Four transistors

14.	Class..... power amplifier has the highest collector efficiency
Option A:	C
Option B:	A
Option C:	B
Option D:	AB
15.	A 2-transistor class B power amplifier is commonly called amplifier
Option A:	Dual
Option B:	Push-pull
Option C:	Symmetrical
Option D:	Differential
16.	A coupling capacitor is
Option A:	A DC short
Option B:	An AC open
Option C:	A DC open and an AC short
Option D:	A DC short and an AC open
17.	Reducing all dc sources to zero is one of the steps in getting the
Option A:	DC equivalent circuit
Option B:	AC equivalent circuit
Option C:	Complete amplifier circuit
Option D:	Voltage divider biased circuit
18.	When an AC signal is applied to an amplifier, the operating point moves along _____
Option A:	DC load line
Option B:	AC load line
Option C:	Both DC and AC load lines
Option D:	Remains stable
19.	A Differential Amplifier amplifies
Option A:	Input signal with higher voltage
Option B:	Input voltage with smaller voltage
Option C:	Sum of the input voltage
Option D:	Difference of the input voltage
20.	If output is measured between two collectors of transistors, then the Differential amplifier with two input signal is said to be configured as
Option A:	Dual Input Balanced Output
Option B:	Dual Input Unbalanced Output
Option C:	Single Input Balanced Output
Option D:	Dual Input Unbalanced Output

Q2.	Solve any Two Questions out of Three	10 marks each
A	<p>Determine the following for the fixed-bias configuration of following Figure.</p> <p>(a) I_{BQ} and I_{CQ}.</p> <p>(b) V_{CEQ}.</p> 	
B	<p>Determine the following for the network of following Figure.</p> <p>(a) V_{GSQ}.</p> <p>(b) I_{DQ}.</p> <p>(c) V_{DS}.</p> 	
C	Explain construction and working of depletion MOSFET.	

Option 3

Q3.	Solve any Two Questions out of Three	10 marks each
A	Compare class A, class B and Class AB power amplifiers.	
B	Explain construction and working of n channel JFET.	
C	Compare r model and h model for BJT ac analysis.	