Royal College of Arts Science and Commerce
TYBSc Physics
Semester: VI
Paper:II – Electronics
Sample Questions

1.	The common-source JFET amplifier has ……..	
	a	a very high input impedance and a relatively low voltage gain
	b	a high input impedance and a very high voltage gain
	c	a high input impedance and a voltage gain less than 1
	d	no voltage gain
2.	Which type of JFET bias requires a negative supply voltage?	
	a	feedback
	b	source
	c	gate
	d	Voltage divider
3.	In the constant-current region, how will the I_{DS} change in an n-channel JFET?	
	a	As V_{GS} decreases I_D decreases.
	b	As V_{GS} increases I_D decreases
	c	As V_{GS} decreases I_D remains constant.
	d	As I_D increases V_{GS} remains constant.
4	A MOSFET has _____ terminals.	
	a	two
	b	Five
	c	Four
	d	Three
5	Which of the following devices has the highest input impedance?	
	a	JFET
	b	MOSFET
	c	crystal diode
	d	ordinary transistor
6	In a MOSFET, the metal area of the gate, along with the insulating dielectric oxide layer and the semiconductor channel, forms a _____.	
	a	bipolar junction transistor
	b	resistive network
	c	parallel plate capacitor
	d	Unipolar junction transistor
7	An SCR has …….. p n semiconductor	
	a	One
	b	Two
	c	Three
	d	Four

8	FOR gate open in SCR current does not flows through load resistance , due to junction ------- and -------.	
	a	J1,J2 forward bias j3 reverse bias
	b	J1,J3 forward bias j2 reverse bias
	c	J3,J2 forward bias j1 reverse bias
	d	J1 forward bias j2,j3 reverse bias
9	Differential amplifier operates at---------- Voltage.	
	a	At high Voltage (~ 100 KV).
	b	At medium voltage (~230 V).
	c	At Low Voltage (~ 12V).
	d	At very low voltage (~ 12 mV).
10	The following is not the property of OPAMP.	
	a	OPAMP is single stage amplifier.
	b	A high input impedance.
	c	A large open loop gain
	d	Very large CMRR.
11.	A common – mode signal is applied to----------.	
	a	The noninverting input.
	b	The inverting input.
	c	Both inputs.
	d	To top of tail resister.
12	In a voltage controlled current source with op-amp, the circuit acts like a	
	a	Voltage amplifier
	b	Current – to - voltage source
	c	Voltage –to-current source
	d	Current amplifier
13	Instrumentation amplifier is extension of	
	a	Inverting amplifier
	b	Non- Inverting amplifier
	c	summing amplifier
	d	Differential amplifier
14	When Transistor is saturated, it act like a closed switch between collector and _____.	
	a	Collector
	b	Base
	c	Emitter
	d	Power supply
15	What is the function of the comparators in the 555 timer circuit?	
	a	to compare the output voltages to the internal voltage divider
	b	to compare the input voltages to the internal voltage divider
	c	to compare the output voltages to the external voltage divider
	d	to compare the input voltages to the external voltage divider

16	_____ is added to the series regulator to protect pass transistor from excessive current or short circuit.	
	a	Short circuit
	b	Voltage limiting circuit
	c	Current limiting circuit
	d	Open circuit
17	Ripple rejection of 80dB means that reduced the input ripple by a factor of _____	
	a	10000
	b	1000
	c	100
	d	100000
18	A standard TTL gate has a power dissipation of about _____	
	a	10 milliwatts (mW).
	b	20 milliwatts (mW).
	c	30 milliwatts (mW).
	d	40 milliwatts (mW)
19	In digital communication the cable acts like a ……..which filters out the higher harmonics.	
	a	Low pass filter
	b	high pass filter
	c	band pass filter
	d	Band stop filter
20	What is the output voltage if the input voltage of a compander with a maximum voltage range of 1 V and a μ of 255 is 0.25?	
	a	0.08V
	b	0.75V
	c	1.02V
	d	1.54V

SAMPLE