These are sample MCQs to indicate pattern, may or may not appear in examination

University of Mumbai
Online Examination 2020

Program: BE Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: ECC701 and Course Name: Microwave Engineering

Time: 1hour Max. Marks: 50

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

Q1.	Scattering matrix for a reciprocal network is
Option A:	Symmetric
Option B:	Unitary
Option C:	Skew symmetric
Option D:	Identity matrix
Q2.	A major disadvantage of klystron amplifier is:
Option A:	Low power gain
Option B:	Low bandwidth
Option C:	High source power
Option D:	Design complexity
Q3.	Dominant mode is defined as:
Option A:	Mode with the lowest cut off frequency
Option B:	Mode with the highest cut off frequency
Option C:	Any TEM mode is called a dominant mode
Option D:	Mode with zero frequency
Q4.	Frequency range of microwave X- band is:
Option A:	1GHz to 4 GHz
Option B:	8 GHz to 12 GHz
Option C:	5 GHz to 10 GHz
Option D:	13 GHz to 18 GHz
Q5.	The upper frequency limit of BJT depends on the:
Option A:	collector length in the transistor
Option B:	base length
Option C:	emitter length

Option D:	driving voltage
Q6.	Velocity Modulation and Current Modulation takes place in_____
Option A:	Gunn Diode
Option B:	Gyratron
Option C:	Varactor Diode
Option D:	Klystron tube
Q7.	According to double minimum method, VSWR is _____
Option A:	Directly proportional to distance measured between 'Twice minimum power points
Option B:	Inversely proportional to distance measured between 'Twice minimum power points
Option C:	equal to distance measured between 'Twice minimum power points
Option D:	Independent of distance measured between 'Twice minimum power points
Q8.	HMIC stands for _____
Option A:	Hybrid Microwave Inside Circuits
Option B:	Hybrid Microwave Integrated Circuits
Option C:	Hybid Mini Integrated Circuits
Option D:	Hybrid Mini Inherent Circuits
Q9.	The lowest mode of TM wave propagation in rectangular waveguide is:
Option A:	TM10
Option B:	TM11
Option C:	TM01
Option D:	TM12
Q10.	What is the advantage of miniature hybrid circuits compared to Standard hybrid circuits?
Option A:	Large size
Option B:	High weight
Option C:	Lower loss
Option D:	Higher loss
Q11.	BJTs are bipolar junction transistors. The name bipolar is given because:
Option A:	they are made of n type and p type semiconductor
Option B:	they have holes as charge carriers
Option C:	they have electrons as charge carriers
Option D:	they have electrons and Holes as charge carriers
Q12.	Microwave tubes are grouped into two categories depending on the type of:
Option A:	Electron beam field interaction
Option B:	Amplification method
Option C:	Power gain achieved
Option D:	Construction methods

Q13.	For matched line, the standing wave ratio will be
Option A:	0
Option B:	∞
Option C:	-1
Option D:	1
Q14.	The number of semiconductor layers in IMPATT diode is:
Option A:	two
Option B:	three
Option C:	four
Option D:	ONE
Q15.	Varactor diode is a semiconductor diode in which the _____ can be varied as a function of reverse voltage of the diode.
Option A:	Junction resistance
Option B:	Junction capacitance
Option C:	Junction impedance
Option D:	Junction admittance
Q16.	In measurement of low microwave power, the device used called as Thermistors have _____
Option A:	Positive temperature coefficient and their resistance increases with an increase in temperature
Option B:	Positive temperature coefficient and their resistance decreases with an increase in temperature
Option C:	Negative temperature coefficient and their resistance increases with an increase in temperature
Option D:	Negative temperature coefficient and their resistance decreases with an increase in temperature
Q17.	Isolation of a directional coupler is a measure of the:
Option A:	Power delivered to the uncoupled port
Option B:	Power delivered to the coupled port
Option C:	Power delivered to the second port
Option D:	Power delivered to the third port
Q18.	The width of depletion region of a varactor diode _____with increase in reverse bias voltage.
Option A:	Increases
Option B:	Decreases
Option C:	Remains constant
Option D:	becomes zero
Q19.	Microwave power meter consists of a power sensors that converts
Option A:	Heat energy to frequency

Option B:	Microwave power to Heat energy
Option C:	Microwave frquency into potential energy
Option D:	Microwave power to light signal
Q20.	The klystron tube used in a klystron amplifier is a _____ type beam amplifier.
Option A:	Linear beam
Option B:	Crossed field
Option C:	Parallel field
Option D:	Non-linear beam
Q21.	Ideally, Substrate Material used in MIC has following feature.
Option A:	High dielectric loss
Option B:	Low mechanical strength
Option C:	High cost
Option D:	Good substrate surface finish free of voids to keep conductor
Q22.	Four port directional coupler has input power of 2W and coupled port power is 0.1 W, the coupling of the directional coupler is:
Option A:	13 dB
Option B:	10 dB
Option C:	26 dB
Option D:	3 dB
Q23.	The junction resistance and capacitance of the intrinsic region in a PIN diode are connected_____ in the equivalent circuit of PIN diode.
Option A:	Series
Option B:	Parallel
Option C:	Connected across package capacitance
Option D:	Series-Parallel
Q24.	The mode of operation in which the Gunn diode is not stable is:
Option A:	Gunn oscillation mode
Option B:	limited space charge accumulation mode
Option C:	stable amplification mode
Option D:	bias circuit oscillation mode
Q25.	Practical limitation of single stub impedance matching circuit is:
Option A:	Varying the length 'l' of the stub
Option B:	Varying the location 'd' of the stub
Option C:	losses occurs
Option D:	complexity