

Program: BE Electronics Engineering

Curriculum Scheme: Revised 2012

Examination: Fourth Year Semester VII

Course Code: ELX703 and Course Name: IC Technology

Time: 1 hour

Max. Marks: 50

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

Q1.	What's the procedure in Top-down fabrication method?
Option A:	Nano-particles -> Powder -> Bulk
Option B:	Powder -> Bulk -> Nano-particles
Option C:	Bulk -> Powder -> Nano-particles
Option D:	Nano-particle -> Bulk -> Powder
Q2.	CVD stands for _____
Option A:	Carbon vapour density
Option B:	Chemical vapour density
Option C:	Chemical vapour deposition
Option D:	Carbon vapour deposition
Q3.	Nanomaterials are the materials with at least one dimension measuring less than _____
Option A:	1 nm
Option B:	10 nm
Option C:	100 nm
Option D:	1000 nm
Q4.	How many masking stages does fabrication of GaAs FET require?
Option A:	five
Option B:	four
Option C:	ten
Option D:	eight
Q5.	Which MOSFET contains Schottky diode?
Option A:	GaAs
Option B:	Ga
Option C:	Si

Option D:	SiO <sub>2</sub>
Q6.	D type and E type MESFETs operates by _____ of existing doped channel.
Option A:	depletion
Option B:	enhancement
Option C:	e type MESFET
Option D:	d type MESFET
Q7.	Which is ON device?
Option A:	e type MESFET
Option B:	d type MESFET
Option C:	depletion
Option D:	enhancement
Q8.	Exhaustive testing is suitable when N is
Option A:	small
Option B:	large
Option C:	any value for N
Option D:	very large
Q9.	Test vectors in sensitized path-based testing is generated
Option A:	before enumerating faults
Option B:	after enumerating faults
Option C:	after designing
Option D:	before designing
Q10.	To propagate the fault along the selected path to primary output, setting _____ is done.
Option A:	AND to 1
Option B:	OR to 1
Option C:	NOR to 1
Option D:	NAND to 0
Q11.	What is the best choice of IC package used for experimental purpose?
Option A:	DIP package
Option B:	Metal can package
Option C:	Flat pack
Option D:	Transistor pack
Q12.	What is the general information specified in ordering an IC?

Option A:	Temperature range
Option B:	Device type
Option C:	Package type
Option D:	All of the mentioned
Q13.	In which method shallow penetration of dopants is possible?
Option A:	Ion implantation
Option B:	Vertical diffusion
Option C:	Horizontal diffusion
Option D:	Dopants diffusion
Q14.	Steps involved in ion implantation phase is
Option A:	metallization
Option B:	anneal
Option C:	alignment mark mask
Option D:	lift-off
Q15.	How the aluminium film coating is carried out in metallization process?
Option A:	Heating and pouring aluminium in required place.
Option B:	Aluminium is vacuum evaporated and then condensed
Option C:	Placing the aluminium in required place and then heating it using tungsten
Option D:	None of the mentioned
Q16.	Which isolation technique is used in applications like military and aerospace?
Option A:	Thin film isolation
Option B:	PN-junction isolation
Option C:	Barrier isolation
Option D:	Dielectric isolation
Q17.	Plasma-enhanced chemical vapour deposition process is used for fabrication of
Option A:	conducting films
Option B:	insulating films
Option C:	conducting & insulating films
Option D:	none of the mentioned
Q18.	Which method uses plasma excitation?
Option A:	PECVD
Option B:	low pressure CVD

Option C:	high pressure CVD
Option D:	sputtering
Q19.	Cuts are not needed for
Option A:	ohmic contacts
Option B:	schottky barriers
Option C:	interconnect metallizations
Option D:	joining two layers
Q20.	Which is the less costly material that can be used for first-level metal?
Option A:	gold
Option B:	platinum
Option C:	aluminium
Option D:	titanium
Q21.	In ion implantation method, penetrating the ions into the silicon wafer depends upon
Option A:	Accelerating voltage
Option B:	Accelerating speed
Option C:	Accelerating current
Option D:	All of the mentioned
Q22.	_____ is controlled by varying ion flux and velocity.
Option A:	doping density
Option B:	doping thickness
Option C:	doping rate
Option D:	doping material
Q23.	Gallium arsenide crystals are grown from
Option A:	boron oxide
Option B:	silicon oxide
Option C:	silicon nitride
Option D:	boron nitride
Q24.	In GaAs technology, deposited dielectric films brings about
Option A:	passivation
Option B:	combination
Option C:	decomposition
Option D:	diffusion
Q25.	How to obtain silicon ingots of 10-15cm diameter?

Option A:	By crystal pulling process
Option B:	By crystal melting process
Option C:	By crystal growing process
Option D:	All of the mentioned