University of Mumbai
Examination 2020 under cluster 2(FRCRCE)

Program: BE Electronics Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: ELXDL07034 and Course Name: IC Technology

Time: 1hour Max. Marks: 50

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

Q1.	Which terminal controls the electron flow passage?
Option A:	source
Option B:	drain
Option C:	gate
Option D:	base
Q2.	Electron mobility of gallium arsenide is _____ that of silicon.
Option A:	greater than
Option B:	lesser than
Option C:	same as
Option D:	does not depend on
Q3.	In _____ annealing, the energy is measured while the specimen is maintained at a constant temperature.
Option A:	isothermal
Option B:	adiabatic
Option C:	anisothermal
Option D:	isentropic
Q4.	Oxidation process is carried out using _____
Option A:	hydrogen
Option B:	low purity oxygen
Option C:	sulphur
Option D:	nitrogen
Q5.	Concentration gradient refers to:
Option A:	Change of concentration with respect to time
Option B:	Change of concentration with respect to space
Option C:	Change of concentration with respect to temperature
Option D:	Change of concentration with respect to density
Q6.	Heavily doped polysilicon is deposited using
Option A:	chemical vapour decomposition
Option B:	chemical vapour deposition
Option C:	chemical deposition
Option D:	dry deposition

Q7.	_____ is commonly used as a mask for Si etching.
Option A:	Silicon dioxide
Option B:	Silicon nitride
Option C:	Silicone gel
Option D:	Silicon sulphate
Q8.	_____ is used to protect the remaining area of the wafer while machining.
Option A:	Tin foil
Option B:	Wood
Option C:	Photoresist layer
Option D:	Sodium bicarbonate
Q9.	During recrystallization, the metal becomes _____
Option A:	harder
Option B:	soft
Option C:	brittle
Option D:	malleable
Q10.	A disturbance in a region between two ideal parts of a crystal is known as
Option A:	Boundary defect
Option B:	Point defect
Option C:	Line defect
Option D:	Volume defect
Q11.	What are two-dimensional defects?
Option A:	Boundary defect
Option B:	Point defect
Option C:	Line defect
Option D:	Volume defect
Q12.	MOSFET can be used as a
Option A:	Current controlled capacitor
Option B:	Voltage controlled capacitor
Option C:	Current controlled inductor
Option D:	Voltage controlled inductor
Q13.	There is _____ change in crystal structure during recrystallization.
Option A:	Major
Option B:	Minor
Option C:	No
Option D:	Constant
Q14.	In CMOS fabrication, the photoresist layer is exposed to _____
Option A:	visible light
Option B:	ultraviolet light
Option C:	infra red light

Option D:	fluorescent
Q15.	In Partially depleted SOI MOSFET Buried oxide layer is
Option A:	Ultra thin
Option B:	thick
Option C:	Not present
Option D:	Grounded
Q16.	Which of the below statements are correct:
Option A:	Dry oxidation is about 5 times faster than wet oxidation
Option B:	Dry oxidation is mainly used for creating thin oxide layers and wet oxidation for thicker ones
Option C:	Dry oxidation is used for making field oxide layers and wet oxidation for gate oxides
Option D:	Dry oxidation is mainly used for creating thick oxide layers and wet oxidation for thin ones
Q17.	Which of the sputtering techniques gives better yield?
Option A:	DC sputtering
Option B:	RF sputtering
Option C:	Magnetron sputtering
Option D:	Reactive sputtering
Q18.	Which of the following PVD technique can deposit film with better purity
Option A:	E-beam evaporation
Option B:	Sputtering
Option C:	Thermal evaporation
Option D:	Thermal oxidation
Q19.	Stable native oxide was produced by
Option A:	oxidation of silicon
Option B:	oxidation of gallium
Option C:	oxidation of boron
Option D:	oxidation of aluminium
Q20.	n and p transistors are separated by using _____
Option A:	differentiation line
Option B:	separation line
Option C:	demarcation line
Option D:	black line
Q21.	FinFet has low current device which result in
Option A:	Zero gain
Option B:	High gain
Option C:	low gain
Option D:	1/10
Q22.	In MESFET for gate _____ junction is used.

Option A:	pnp junction
Option B:	npn junction
Option C:	schottky junction
Option D:	n junction
Q23.	The BJTs in the BICMOS circuit is in _____ configuration.
Option A:	Push-pull
Option B:	Totem pole
Option C:	Active high
Option D:	Active low
Q24.	Graphene has
Option A:	Zero bandgap
Option B:	High bandgap
Option C:	Moderate bandgap
Option D:	Very large bandgap
Q25.	To make a good ohmic contact to a semiconductor, what should be done?
Option A:	Choose a metal with a high Schottky barrier height.
Option B:	Use a lightly doped semiconductor
Option C:	Introduce defects into the semiconductor to lower its lifetime
Option D:	Dope the semiconductor very heavily