

VLSI DESIGN MCQ QUESTIONS PDF

1. Which circuits work on low voltages?

1. Discrete circuits
2. Integrated circuits
3. All of above
4. None of above

Answer: Integrated circuits

2. The initial step involved in the IC fabrication is _____.

1. Silicon wafer preparation
2. Metallization
3. Ion implantation
4. Oxidation

Answer: Silicon wafer preparation

3. Wafers properties depends upon the _____ of crystalline structures.

1. Concentrations of impurity
2. Orientation
3. Presence of various impurities
4. All the above

Answer: All the above

4. More amount of power can be handled by _____ circuits.

1. Discrete
2. Integrated
3. All of above
4. None of above

Answer: Discrete

5. The adjoining transistors in an integrated circuit can be isolated using _____ technique

1. Metallization
2. Oxidation
3. Reverse biased PN junction
4. Forward biased PN junction

Answer: Reverse biased PN junction

6. The process in which the impurities added to the pure form of silicon is known as _____.

1. Metallization
2. Oxidation
3. Orientation
4. Doping

Answer: Doping

7. In silicon the ability of controlling the various impurities and the concentration of doping leads to the formation of _____

1. Transistors
2. Resistors
3. Diodes
4. All the above

Answer: All the above

8. Isolation among the devices is a must in _____ circuits.

1. Discrete
2. Integrated
3. All of above
4. None of above

Answer: Discrete

9. What are the types of oxidation?

1. Wet oxidation
2. Dry oxidation
3. None of the above
4. All of above

Answer: None of the above

10. What is the second step in the IC fabrication?

1. Oxidation
2. Metallization
3. Doping
4. Orientation

Answer: Oxidation

11. The silicon wafer when reacted with oxygen is converted to _____

1. Silicon oxide
2. Silicon dioxide
3. Oxygen
4. Silica

Answer: Silicon dioxide

12. The thickness and the size of the crystal is _____ proportional to each other

1. Inversely
2. Indirectly
3. Directly
4. None

Answer: Directly

13. The resistivity of the crystal is controlled by the value of _____ added

1. Substrate
2. Dopant
3. Capacitance
4. Resistance

Answer: Dopant

14. Masking oxide preparation prefers _____

1. Wet oxidation
2. Dry oxidation
3. All of above
4. None of the above

Answer: None of the above

15. Deposition of gate oxide prefers _____

1. Wet oxidation
2. Dry oxidation
3. None of the above
4. All of above

Answer: Dry oxidation

16. What is the most critical step in the fabrication of MOSFETs?

1. Silicon oxidation
2. Wafer preparation
3. Field oxidation
4. Gate oxide

Answer: Gate oxide

17. _____ takes active participation performance wise

1. Silicon oxide

2. Gate oxide
3. Field oxide
4. Substrate

Answer: Gate oxide

18. The diffusion of n+ layer can occur by using _____ dopan

1. Arsenic
2. Antimony
3. All of above
4. Either a or b

Answer: Either a or b

19. Heavily doped silicon has _____ resistivity.

1. Medium
2. High
3. Ultra high
4. Low

Answer: High

20. Doping can also be done by using _____

1. Contact metallization
2. Diffusion
3. Oxidation
4. Ion implantation

Answer: Diffusion

21. The thickness of field oxide in the MOSFET is _____

1. Medium
2. High
3. Ultra high
4. Low

Answer: High

22. Field oxide is the first step of fabrication in _____

1. UJT
2. BJT
3. MOSFET
4. CMOS

Answer: MOSFET

23. What is next step after Photolithography?

1. Metallization
2. Oxidation
3. Orientation
4. Diffusion

Answer: Diffusion

24. The classification of ICs is also based on _____

1. Presence of the active devices
2. Number of transistors present
3. None of the above
4. All of above

Answer: Number of transistors present

25. For a p-type substrate the diffusion is performed with _____.

1. N+
2. P+
3. None of the above
4. All of above

Answer: N+

26. The number of transistors present in LSI are _____

1. 100-1000
2. Less than 10
3. Between 1000-10,000
4. 10-100

Answer: 100-1000

27. Sio₂ is excellent at _____

1. Dielectric
2. Masking
3. Insulating
4. All the above

Answer: All the above

28. How many gates are present on each chip for Medium scale integration?

1. 30-300
2. 300-3000
3. 3-30

4. None

Answer: 30-300

29. Oxidation in silicon can be occurred by raising _____

1. Humidity
2. Pressure
3. Volume
4. Temperature

Answer: Temperature

30. Integration circuits possess _____ basic generations.

1. Four
2. Five
3. Three
4. Six

Answer: Four