Program: T.E. (ELECTRONICS AND TELECOMMUNICATION)

Curriculum Scheme: Revised 2012(CBSGS)

Examination: Third Year Semester VI

Course Code: ETC606 and Course Name: VLSI Design

Time: 1hour Max. Marks: 50

==============================================================================

**SAMPLE MCQ**

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

|  |  |
| --- | --- |
| Q1. | Which type of CMOS circuits are good and better? |
| Option A: | p well |
| Option B: | n well |
| Option C: | P+ well |
| Option D: | N+well |
|  |  |
| Q2. | Wrong readings are recorded due to reset input being |
| Option A: | dependent of clock signal |
| Option B: | independent of clock signal |
| Option C: | dependent of gate signal |
| Option D: | independent of gate signal |
|  |  |
| Q3. | The fast rise and fall times give cross-talk problems if |
| Option A: | they are in close proximity |
| Option B: | if they are far away |
| Option C: | it always gives rise to cross-talk problems |
| Option D: | does not allow cross-talk problems |
|  |  |
| Q4. | With partitioning, bypassing is performed using |
| Option A: | buffers |
| Option B: | multiplexers |
| Option C: | multipliers |
| Option D: | dividers |
|  |  |
| Q5. | In which of the memories, does the data disappear? |
| Option A: | SRAM |
| Option B: | DRAM |
| Option C: | Flash memory |
| Option D: | EPROM |
|  |  |
| Q6. | What does VRAM stand for? |
| Option A: | video RAM |
| Option B: | Verilog RAM |
| Option C: | virtual RAM |
| Option D: | volatile RAM |
|  |  |
| Q7. | The dynamic component of power dissipation is given by: |
| Option A: | P = I2.Rd |
| Option B: | P = Vdd2/Rd |
| Option C: | P = Eg.fo |
| Option D: | P=VI |
|  |  |
| Q8. | Contact cuts are made in \_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: | source |
| Option B: | drain |
| Option C: | metal layer |
| Option D: | diffusion layer |
|  |  |
| Q9. | Which is used for the interconnection? |
| Option A: | boron |
| Option B: | oxygen |
| Option C: | aluminum |
| Option D: | silicon |
|  |  |
| Q10. | Maximum transit time occurs when the size of the transistor is |
| Option A: | minimum |
| Option B: | maximum |
| Option C: | does not depend on size |
| Option D: | double |
|  |  |
| Q11. | The breakdown voltage can be reduced by \_\_\_\_\_ electric field strength |
| Option A: | increasing |
| Option B: | decreasing |
| Option C: | does not depend |
| Option D: | exponentially decreasing |
|  |  |
| Q12. | Which level of system implementation includes the specific function oriented registers, counters & multiplexers? |
| Option A: | Module level |
| Option B: | Logical level |
| Option C: | Physical level |
| Option D: | Basic level |
|  |  |
| Q13. | Which among the following is/are taken into account for post-layout simulation? |
| Option A: | Interconnect delays |
| Option B: | Propagation delays |
| Option C: | Logic cells |
| Option D: | Logic gates |
|  |  |
| Q14. | In MOS devices, the current at any instant of time is \_\_\_\_\_\_of the voltage across their terminals. |
| Option A: | constant & dependent |
| Option B: | constant & independent |
| Option C: | variable & dependent |
| Option D: | variable & independent |
|  |  |
| Q15. | The scaling factor of power dissipation per unit area in constant field model is: |
| Option A: | 1 |
| Option B: | 1/α2 |
| Option C: | 1/ β.α2 |
| Option D: | α2/β2 |
|  |  |
| Q16. | The transit time can be given as |
| Option A: | 2d |
| Option B: | 2d/µE |
| Option C: | µE/d |
| Option D: | µE/2d |
|  |  |
| Q17. | Which is the commonly used bulk substrate in nMOS fabrication? |
| Option A: | silicon crystal |
| Option B: | silicon-on-sapphire |
| Option C: | phosphorus |
| Option D: | silicon-di-oxide |
|  |  |
| Q18. | Source and drain in nMOS device are isolated by \_\_\_\_ |
| Option A: | single diode |
| Option B: | two diodes |
| Option C: | Three diodes |
| Option D: | four diodes |
|  |  |
| Q19. | Which of the following is the main factor which determines the memory capacity? |
| Option A: | number of transistors |
| Option B: | number of capacitors |
| Option C: | size of the transistor |
| Option D: | size of the capacitor |
|  |  |
| Q20. | Who proposed the miniature card format? |
| Option A: | Intel |
| Option B: | IBM |
| Option C: | MIPS |
| Option D: | Apple |
|  |  |
| Q21. | In which method regularity is used to reduce complexity? |
| Option A: | random approach |
| Option B: | hierarchical approach |
| Option C: | algorithmic approach |
| Option D: | semi-design approach |
|  |  |
| Q22. | The serial shift register is driven using |
| Option A: | one over-lapping clock |
| Option B: | two over-lapping clock |
| Option C: | one non over-lapping clock |
| Option D: | two non over-lapping clock |
|  |  |
| Q23. | Which is not the function of LSSD method? |
| Option A: | eliminates hazards |
| Option B: | eliminates races |
| Option C: | simplifies fault generation |
| Option D: | stores the data |
|  |  |
| Q24. | Pass transistor can be driven through \_\_\_\_\_ pass transistors. |
| Option A: | one |
| Option B: | no |
| Option C: | more |
| Option D: | two |
|  |  |
| Q25. | Which of the following can access data even when the power supply is lost? |
| Option A: | Non-volatile SRAM |
| Option B: | DRAM |
| Option C: | SRAM |
| Option D: | RAM |