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

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**SAMPLE MCQ**

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

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| 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 |