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2nd Sem, Level 4 / DVOC (Medical Imaging Tech., SD)

Subject : Digital Electronics

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short questions. Attempt all ten questions. (10x1=10)

Q.1 Define Analog signal.

Q.2 In a Boolean algebra X + 1 =

Q.3 Which gate can be used an inverter?

Q.4 Draw the symbol of NOR gate?

Q.5 Define Combinational circuit.

Q.6 Write the truth table of Half Adder

Q.7 How many output data lines are there in a 32:1 multiplexer?

Q.8 Define Flip Flop

Q.9 How many Flip Flops are required to build up MOD 6 counter.

Q.10 Expand LCD

SECTION-B

Note: Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

Q.11 What are the advantages of digital system over analog system?

Q.12 State and explain Demorgan's law

Q.13 Implement OR & And gate using NAND gates only.

Q.14 Explain in brief about the Truth Table, Boolean expression and logic diagram of Full Adder.

Q.15 Explain the operation of SR Flip Flop with diagram.

Q.16 Explain 7 Segments display in brief.

Q.17 Explain PIPO Shift Register with diagram.

Q.18 Differentiate between Statiic and Dynamic memories.

SECTION-C

Note: Long answer type questions. Attempt any one question out of two questions. (1x10=10)

Q.19 Define Multiplexer. Design a 32:1 Mux by using 16:1 Mux and 2:1 Mux.

Q.20 Explain the working of 4 bit Asynchronous Counter with the help of Truth Table and Pulse diagram.