Computer Science (New Book) - 9thClass Computer Science English Medium Chapter 3 Preparation

Q1. Define Digital Logic.

Ans 1: Digital logic is the basis of all digital systmes. This is the technique we use to process digital information in the form of binary numbers.

Q2. Differentiate between Half and Full adder.

Ans 1: A half adder is digitla circuit used to compute the addition of two single-bit binary numebrs. A ful adder is a more complex circuit that adds three signle bit numbers two main bits and a carry bit from a previous addition.

Q3. Define K-map

Ans 1: A karnaugh map is a graphic aid that is employe din simplification of Boolen expressions and minimizing logic function without the used for complex algebraic operations.

Q4. Define Digital Signals

Ans 1: Digital signals are the signals which have only two values that are in the form '0' and '1' these are utilized in digital electroncis and computing systems. Analog to digital converter and diitigal to analog converting are importnat operations in today's technological develpment, enabling the transimission and control of signals.

Q5. Explain the word propagation delay interms of digital logic gates.

Ans 1: Propagation delay is the time it takes for an input change to result in an output change in a logic gate. It influences the overall performance of digital circuits.

Q6. What is Boolean Algebra.

Ans 1: Boolean algebra is a sub discipline of mathematics based on operations involving binary variables.

Q7. What do you know about AND operation.

Ans 1: In the case of AND operation the output is 1 only when both input values are 1. Otherwise, the outpout is 0

Q8. What is multiplexer and how does it work in digital circuits.

Ans 1: A multiplexer chooses one many input signals and sends it to the output based on control signals.

Q9. What are the basic logic gates and their truth tables.

Ans 1: ANDGATE: Outputs 1 when all inputs are 1
OR GAGE: Return 1 if at least one input is 1
NOT GATE: Returns the complement of the input.
These basic gates serve as the foundation for NAND, NOR, XOR, and XNOR gates.

Q10. Define Analog Signals

Ans 1: Analog signlas are signals that changes with time smoothly and continously over time They can have any value within given range. Examples include voice signal body's temperature and radio wave signals.