

Working Principle of Digital Logic
Model Exam Question paper - 2

11th Standard

Computer Science

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 40

10 x 1 = 10

Part-A

- 1) How many representations are there in Boolean function?
(a) 6 (b) 2 (c) 4 (d) 3
- 2) The circuit that performs addition within the arithmetic and logic unit of the CPU are called.....
(a) adders (b) integrated circuits (c) logic gates (d) logical conditions
- 3) A logical unit that adds three binary digits is called a.....
(a) half adder (b) gate half adder (c) full adder (d) gates
- 4) Which gate is added to AND gate in a half adder to generate sum and carry?
(a) NAND (b) NOT (c) XOR (d) XNOR
- 5) The full adder can be constructed from.....
(a) two half adders and NOT gate (b) one half adder and OR gate (c) two half adders and OR gate (d) three half adders and OR gate
- 6) How many types of sequential circuits?
(a) 6 (b) 2 (c) 3 (d) 4
- 7) Which one of the following can be used as a basic memory element in a memory device?
(a) Logical gates (b) Logical circuits (c) Full adder (d) Flip-flop
- 8) Which one of the following are the two inputs for flip-flop circuit?
(a) Yes or No (b) True or False (c) 0 and 1 (d) Set or Reset
- 9) Which one of the following operator is correct for the Boolean function $C = \overline{A}B + A\overline{B}$?
(a) $C = A \odot B$ (b) $C = A \oplus B$ (c) $C = \overline{A} \oplus \overline{B}$ (d) $C = \overline{A} \odot \overline{B}$
- 10) The included dot ($\odot$) stands for.....
(a) NOR (b) XNOR (c) XOR (d) NAND

Part-B

10 x 2 = 20

- 11) What is a half adder?
- 12) What is a full adder?
- 13) What is a combinational circuit?
- 14) What is a sequential circuit?
- 15) Define NAND gate?
- 16) List out the Universal gate.
- 17) Draw logic circuit of half adder figure.
- 18) What is Synchronous sequential circuit.
- 19) What is "memory drop"?
- 20) What is Not Gate?

Part-C

2 x 5 = 10

- 21) What are the different types of logic gates? Explain with the help of truth tables and give an example for each gate.
- 22) Realize the Boolean function to a logic circuit $D = \overline{A} \cdot B + \overline{B} \cdot C$
