

Working Principle of Digital Logic
Model Exam Question paper - 3

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) Which one of the following are called universal gates?
(a) AND, OR, NOT (b) XOR AND XNOR (c) NAND and NOR (d) NAND and AND
- 2) Which one of the following gate is called logical inverter?
(a) NAND (b) XOR (c) NOR (d) NOT
- 3) NOR gate can be replaced by.....
(a) OR (b) AND (c) NAND (d) Bubbled AND
- 4) The exclusive OR operator is.....
(a) $\otimes$ (b) $\ominus$ (c) $\odot$ (d) $\oplus$
- 5) Which one of the following lists all the values of the Boolean function for each set of values of the variable?
(a) Truth table (b) Equation (c) Logic circuit (d) Gates
- 6) A full adder adds.....binary digits.
(a) three (b) two (c) four (d) five
- 7) Which one of the following is an example of sequential circuit?
(a) Flip-flop circuit (b) Digital circuit (c) Logical circuit (d) Combinational circuit
- 8) What are the two states of basic flip-flop?
(a) True or False (b) Yes or No (c) Set and Reset (d) True or Reset
- 9) Which one of the following are found in digital integrated circuits?
(a) Arrays of variables (b) Arrays of Numbers (c) Arrays of components (d) Arrays of logical gates
- 10) If number 0 is called
(a) False (b) True (c) gate (d) Number

Part-B

10 x 2 = 20

- 11) What is a logic gate?
- 12) How can AND gate be realized using NOR gate?
- 13) What is a half adder?
- 14) What is a combinational circuit?
- 15) What is synchronous sequential circuit?
- 16) Write the symbol of AND gate and OR gate.
- 17) List out the Universal gate.
- 18) Draw logic circuit of Full adder.
- 19) What is Asynchronous sequential circuit.
- 20) What is Not Gate?

Part-C

2 x 5 = 10

- 21) How will you convert the Boolean $D = (A \cdot B) + \overline{C}$ function into a truth table?
- 22) Convert the following logic circuit to a boolean equation.


