

Advanced Level
Information and Communication Technology

Time

S. Withanage

Year

Rev/Eng/07

1.

The simplification of the boolean expression $F_{(X,Y)} = (X'.Y)'.(X+Y)'$ using DE Morgan's law is?

- (1). 0 (2). 1 (3). X (4). Y (5). X.Y

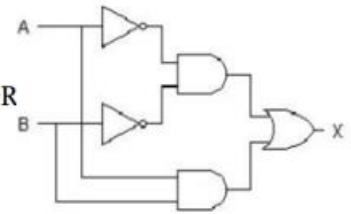
The result of the simplification of $(\overline{ABC}) + (\overline{ABC})$ is ?

- (1). 0 (2). 1 (3). A (4). B.C (5). A.B.C

2.

The output of the given logic circuit is equal to

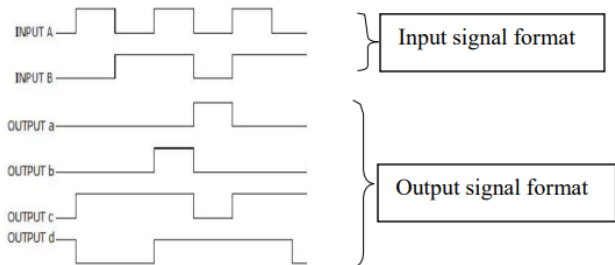
- (1) XOR (2) XNOR (3) AND (4) NAND (5) NOR



3.

Which of the following is the correct output digital wave format when A,B two digital waves are input to a XNOR logic gate with two inputs ?

- (1) OUTPUT A (2) OUTPUT B
(3) OUTPUT C (4) OUTPUT D
(5) None of the above



4.

5.

According to the Boolean law $A+1 =$

- (1) 1 (2) A (3) 0 (4) A' (5) X

6.

Select the expression/expressions which is not equal to $X.(X'+Y)+Y$

- (1) $x .x' + y.(1 + x)$ (2) $0 + x \cdot y + y$ (3) $x \cdot y$ (4) y (5) x .

7.

Inserting a photo of a rose flower in your garden with a digital camera is considered as

- (1) Batch input (2) Direct input (3) Distance input (4) Online input (5) Offline input

8.

The binary number equal to 345.56_8

(1) 10001001.101001_2

(2) 11001001.101001_2

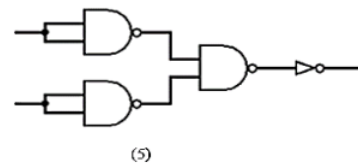
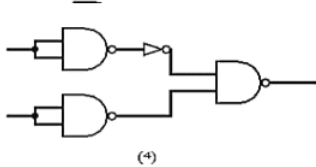
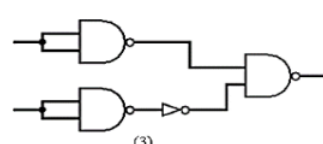
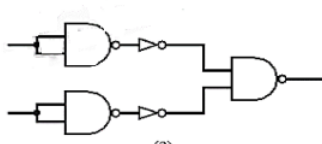
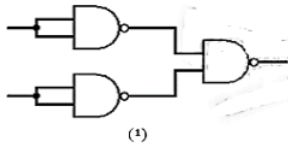
(3) 110001001.101001_2

(4) 110001001.0001_2

(5) 11100101.10111_2

9.

Which one of the following is equal to an OR gate



10.

Consider the following statement about firmware

- a. Firmware are the programs needed to start the computer
- b. Firmware is included in washing machines
- c. Firmware can be edited easily

The correct statement/statements of above is/are

(1) A only

(2) B only

(3) A and B only

(4) A and C only

(5) B and C only

11.

Input is the inserting of data or instructions to a computer. The false statement regarding input is:

- (1) Input devices are devices that enter data into the computer.
- (2) The input data is processed by a program stored in its memory and converted into meaningful instructions.
- (3) Information is generated after processing data
- (4) Manual & automatic methods are the two ways to insert data and instructions into the computer.
- (5) Keyboards, mouse, scanner are input devices

12.

What is the false statement regarding The Golden Rule of Information?

- (1) The information gets its highest value at the moment it is generated
- (2) The value of the information is very high when the time value is zero
- (3) The value of information is depend on the timeliness
- (4) The value of the information is decreasing when time passes and finely it becomes data
- (5) Time can represent graphically against the value of the information

13.

The most appropriate statement to describe the booting process of the computer is,

- (1) It is the process of copying the data from main memory into cache memory
- (2) Loading of data from the hard disk to the main memory
- (3) Lording the operating system from cache memory into the main memory
- (4) Loading the operating system into main memory via a secondary storage device such as a harddisk, compact disk, or floppy disk.
- (5) Loading data from the hard disk into the cache memory

14.

Similar to the Boolean expression $X \oplus Y \oplus Z$ is

- (1) $X'YZ + XY'Z + XYZ'$
- (2) $XY'Z' + X'YZ' + X'Y'Z$
- (3) $X'YZ + XY'Z + XY'Z + XYZ$
- (4) $XY'Z' + X'YZ' + X'Y'Z + XYZ$
- (5) $XY' + X'Y + XZ' + X'Z + YZ' + Y'Z$

15.

The 8 bits 2's complement representation of the number 5_{10} and -9_{10} respectively

- (1) 00000101 and 11110111
- (2) 11111011 and 11110111
- (2) 00000101 and 10001001
- (3) 00000101 and 11110110
- (5) 11111011 and 11110110

16.

Which of the following is the most appropriate answer to fill in the blank

Cached memory is usually used to store ⁶.....

- (1) Large volume of data temporarily
- (2) The least frequently accessed data permanently
- (3) Least frequently accessed data temporarily
- (4) Most frequently accessed data temporarily
- (5) Most frequently accessed data permanently

17.

The microprocessor is generally compared by the clock speed measured in.....or by is the word size of.....that can be set in a single clock cycle. What is the most appropriate answer to fill in the blanks of the above statement

- (1) Bit, MHz (2) Byte, GHz (3) GHz, Byte (4) MHz, Bit (5) Second, Bit

18.

Which of the following is best suited to fill in the blank of this statement? Laser technology is used to read data stored in a.....

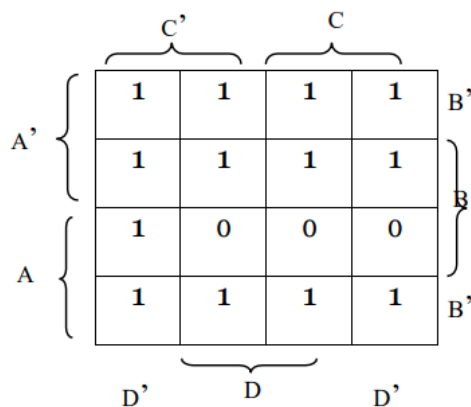
- (1) Floppy disk (2) Magnetic Tape (3) Compact disk
 (4) Magnetic hard disk (5) Flash memory

19

The least capacity of a portable flash drive needed to store a presentation of having 10,256 bits is (1) 1KB (2) 1MB (3) 1GB (4) 8bit (5) 256 byte

20.

Most suitable simplified expression for the following karnaugh map representation is?

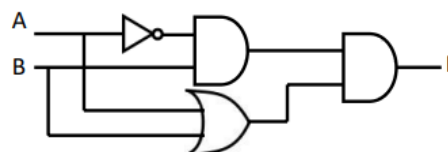


- (1) $A' + AB' + C'D'$ (2) $A' + B' + AD'C'$
 (3) $A' + B' + C'D'$ (4) $C'D' + A'C' + A'C' + B'$
 (5) $B'C + B'C' + A'C + C'D'$

21.

The true statement about the inputs A and B to get output as 1 in the given circuit diagram

- (1) A=1 is sufficient
 (2) A=1 and B=1
 (3) A=0 and B=1
 (4) A=0 and B=0
 (5) Should be B=



22.

What is the relevant logical expression for the following truth table?

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	0

- (1) $A+B$
- (2) $A.B$
- (3) $(A+B)'$
- (4) $\oplus A B$
- (5) $\oplus(A B)'$

S. Withanage