

MIDTERM EXAMINATION

Spring 2009

CS302- Digital Logic Design (Session - 1)

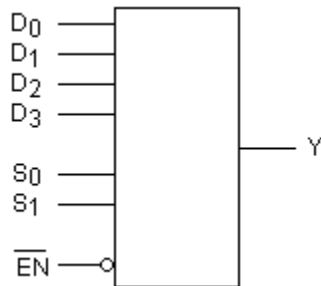
Question No: 1 (Marks: 1) - Please choose one

_____ GAL
can be reprogrammed because instead of fuses _____ logic is used in it

- ▶ E²CMOS
- ▶ TTL
- ▶ CMOS+
- ▶ None of the given options

Question No: 2 (Marks: 1) - Please choose one

_____ The
device shown here is most likely a



- ▶ Comparator
- ▶ Multiplexer
- ▶ Demultiplexer
- ▶ Parity generator

Question No: 3 (Marks: 1) - Please choose one

_____ If
“1110” is applied at the input of BCD-to-Decimal decoder which output pin will be activated:

- ▶ 2nd
- ▶ 4th
- ▶ 14th
- ▶ No output wire will be activated

Question No: 4 (Marks: 1) - Please choose one

_____ Half-Adder Logic circuit contains 2 XOR Gates

- ▶ True
- ▶ False

Question No: 5 (Marks: 1) - Please choose one

particular Full Adder has A

- ▶ 3 inputs and 2 output
- ▶ 3 inputs and 3 output
- ▶ 2 inputs and 3 output
- ▶ 2 inputs and 2 output

Question No: 6 (Marks: 1) - Please choose one

$$\text{Sum} = A \oplus B \oplus C$$

$$\text{CarryOut} = C(A \oplus B) + AB$$

are the Sum and CarryOut expression of

- ▶ Half Adder
- ▶ Full Adder
- ▶ 3-bit parralel adder
- ▶ MSI adder cicuit

Question No: 7 (Marks: 1) - Please choose one

Karnaugh map is similar to a truth table because it presents all the possible values of input variables and the resulting output of each value. A

- ▶ True
- ▶ False

Question No: 8 (Marks: 1) - Please choose one

output $A < B$ is set to 1 when the input combinations is _____ The

- ▶ A=10, B=01
- ▶ A=11, B=01
- ▶ A=01, B=01
- ▶ A=01, B=10

Question No: 9 (Marks: 1) - Please choose one

4-variable Karnaugh Map (K-Map) has _____ cells for min or max terms The

- ▶ 4
- ▶ 8
- ▶ 12
- ▶ 16

Question No: 10 (Marks: 1) - Please choose one

Generally, the Power dissipation of _____ devices remains constant throughout their operation.

- ▶ TTL
- ▶ CMOS 3.5 series
- ▶ CMOS 5 Series
- ▶ Power dissipation of all circuits increases with time.

Question No: 11 (Marks: 1) - Please choose one

_____ The decimal “8” is represented as _____ using Gray-Code.

- ▶ 0011
- ▶ 1100
- ▶ 1000
- ▶ 1010

Question No: 12 (Marks: 1) - Please choose one

_____ $(A+B).(A+C) =$ _____

- ▶ B+C
- ▶ A+BC
- ▶ AB+C
- ▶ AC+B

Question No: 13 (Marks: 1) - Please choose one

_____ A.(B + C) = A.B + A.C is the expression of _____

- ▶ Demorgan’s Law
- ▶ Commutative Law
- ▶ Distributive Law
- ▶ Associative Law

Question No: 14 (Marks: 1) - Please choose one

_____ NOR Gate can be used to perform the operation of AND, OR and NOT Gate

- ▶ FALSE
- ▶ TRUE

Question No: 15 (Marks: 1) - Please choose one

ANSI/IEEE Standard 754 “Mantissa” is represented by ___32-bits_____ bits

- ▶ 8-bits
- ▶ 16-bits
- ▶ 32-bits
- ▶ 64-bits

Question No: 16 (Marks: 1) - Please choose one

Caveman number system is Base _5_____ number system

- ▶ 2
- ▶ 5
- ▶ 10
- ▶ 16

Question No: 17 (Marks: 1)

Briefly state the basic principle of **Repeated Multiplication-by-2** Method.

Question No: 18 (Marks: 1)

How standard Boolean expressions can be converted into truth table format.

Question No: 19 (Marks: 2)

What will be the out put of the diagram given below



Question No: 20 (Marks: 3)

When an Input (source) file is created in ABEL a module is created which has three sections. Name These three sections.

Question No: 21 (Marks: 5)

Explain “AND” Gate and some of its uses

Question No: 22 (Marks: 10)

Write down different situations where we need the sequential circuits.