NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E./CSE	Year / Semester :II/III		Format No.	NAC/TLP-07a.13
Subject Code :CS8351	Subject Name :Digital Principles and System Design		Rev. No.	02
Unit No :2	Unit Name :Combinational logic		Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	How many 3-line-to-8-line decoders are required for a 1-of-32 decoder? A) 1 B) 2 C) **4** D) 8	L2
2	Which of the following combinations of logic gates can decode binary 1101? a) One 4-input AND gate b) **One 4-input AND gate, one inverter** c) One 4-input AND gate, one OR gate d) One 4-input NAND gate, one inverter	L2
3	The carry propagation can be expressed as _____ a) Cp = AB b) **Cp = A + B** c) All but Y0 are LOW d) All but Y0 are HIGH	L4
4	2^9 input circuit will have total of _____ a) 32 entries b) 128 entries c) 256 entries d) **512 entries**	L5
5	The output sum of two decimal digits can be represented in _____ a) Gray Code b) Excess-3 c) **BCD** d) Hexadecimal	L1
6	The addition of two decimal digits in BCD can be done through _____ a) **BCD adder** b) Full adder c) Ripple carry adder d) Carry look ahead adder	L2
7	The simplified expression of full adder carry is _____ a) **c = xy+xz+yz** b) c = xy+xz c) c = xy+yz d) c = x+y+z	L2
8	Decimal digit in BCD can be represented by _____ a) 1 input line b) 2 input lines c) 3 input lines d) **4 input lines**	L4
9	A serial subtractor can be obtained by converting the serial adder by using the a) 1's complement system	L5

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	b) **2's complement system** c) 10's complement d) 9's complement	
10	Why is parallel data transmission preferred over serial data transmission for most applications? a) It is much slower b) It is cheaper c) More people use it d) **It is much faster**	L1
11	The carry look ahead adder is based on the principle of looking at the lower order bits of _____ and _____ if a high order carry is generated. a) Addend, minuend b) Minuend, subtrahend c) Addend, minuend d) **Augend, addend**	L2
12	In serial addition, the addition is carried out _____ a) 3 bit per second b) Byte by byte c) **Bit by bit** d) All bits at the same time	L2
13	A D flip-flop is used in a 4-bit serial adder, why? a) It is used to invert the input of the full adder b) It is used to store the output of the full adder c) **It is used to store the carry output of the full adder** d) It is used to store the sum output of the full adder	L4
14	What is ripple carry adder? a) **The carry output of the lower order stage is connected to the carry input of the next higher order stage** b) The carry input of the lower order stage is connected to the carry output of the next higher order stage c) The carry output of the higher order stage is connected to the carry input of the next lower order stage d) The carry input of the higher order stage is connected to the carry output of the lower order stage	L5
15	Carry lookahead logic uses the concepts of _____ a) Inverting the inputs b) Complementing the outputs c) **Generating and propagating carries** d) Ripple factor	L1
16	One that is not the outcome of magnitude comparator is _____ a) a > b b) **a – b**	

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	c) a < b d) a = b	L2
17	In a comparator, if we get input as A>B then the output will be _____ a) **1** b) 0 c) A d) B	L2
18	A circuit that compares two numbers and determine their magnitude is called a) Height comparator b) Size comparator c) Comparator d) **Magnitude comparator**	L4
19	TTL 74LS85 is a _____ a) 1-bit digital comparator b) **4-bit magnitude comparator** c) 8-bit magnitude comparator d) 8-bit word comparator	L5
20	A code converter is a logic circuit that _____ a) Inverts the given input b) Converts into decimal number c) **Converts data of one type into another type** d) Converts to octal	L1
21	Convert binary number into gray code: 100101. a) 101101 b) 001110 c) **110111** d) 111001	L2
22	How many inputs will a decimal-to-BCD encoder have? a) 4 b) 8 c) **10** d) 16	L2
23	If we record any music in any recorder, such types of process is called _____ a) Multiplexing b) **Encoding** c) Decoding d) Demultiplexing	L4
24	Can an encoder be called as multiplexer? a) No b) **Yes** c) Sometimes d) Never	L5
25	The word demultiplex means _____	L1

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	a) One into many b) Many into one c) Distributor d) **One into many as well as Distributor**	
26	Why is a demultiplexer called a data distributor? a) **The input will be distributed to one of the outputs** b) One of the inputs will be selected for the output c) The output will be distributed to one of the inputs d) Single input to Single Output	L2
27.	Total number of inputs in a half adder is _____ a) **2** b) 3 c) 4 d) 1	L2
28.	In which operation carry is obtained? a) Subtraction b) **Addition** c) Multiplication d) Both addition and subtraction	L4
29.	If A and B are the inputs of a half adder, the sum is given by _____ a) A AND B b) A OR B c) **A XOR B** d) A EX-NOR B	L5
30.	Half-adders have a major limitation in that they cannot _____ a) Accept a carry bit from a present stage b) Accept a carry bit from a next stage c) **Accept a carry bit from a previous stage** d) Accept a carry bit from the following stages	L1
31.	The difference between half adder and full adder is _____ a) Half adder has two inputs while full adder has four inputs b) Half adder has one output while full adder has two outputs c) **Half adder has two inputs while full adder has three inputs** d) All of the Mentioned	L2
32.	A logic circuit that provides a HIGH output for both inputs HIGH or both inputs LOW is a) **Ex-NOR gate** b) OR gate c) Ex-OR gate d) NAND gate	L2
33.	Which digital system translates coded characters into a more useful form? a) Encoder b) Display c) Counter	L4

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	d) **Decoder**	
34.	What control signals may be necessary to operate a 1-line-to-16 line decoder? a) Flasher circuit control signal b) **A LOW on all gate enable inputs** c) Input from a hexadecimal counter d) A HIGH on all gate enable circuits	L5
35.	How many inputs are required for a 1-of-16 decoder? a) 2 b) 16 c) 8 d) **4**	L1
36.	The full form of LCD is _____ a) **Liquid Crystal Display** b) Liquid Crystalline Display c) Logical Crystal Display d) Logical Crystalline Display	L2
37.	The optical properties of liquid crystals depend on the direction of _____ a) Air b) Solid c) **Light** d) Water	L2
38.	By which properties, the orientation of molecules in a layer of liquid crystals can be changed? a) Magnetic field b) **Electric field** c) Electromagnetic field d) Gallois field	L4
39.	LCDs operate from a voltage ranges from _____ a) **3 to 15V** b) 10 to 15V c) 10V d) 5V	L5
40.	In 7 segment display, how many LEDs are used? a) 8 b) **7** c) 10 d) 9	L1