

## NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : B.E/ECE	Year / Semester : II/03	Format No.	NAC/TLP-07a.13
Subject Code : EC8392	Subject Name : <b>DIGITAL ELECTRONICS</b>	Rev. No.	02
Unit No : 2	Unit Name : <b>COMBINATIONAL CIRCUIT DESIGN</b>	Date	30.09.2020

### OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices )	BTL
01	A full adder logic circuit will have _____ a) Two inputs and one output b) Three inputs and three outputs c) Two inputs and two outputs <b>d) Three inputs and two outputs</b>	L4
02	The gates required to build a half adder are _____ a) EX-OR gate and NOR gate b) EX-OR gate and OR gate <b>c) EX-OR gate and AND gate</b> d) EX-NOR gate and AND gate	L2
03	It is possible for an enable or strobe input to undergo an expansion of two or more MUX ICs to the digital multiplexer with the proficiency of large number of _____ <b>a) Inputs</b> b) Outputs c) Selection lines d) Enable lines	L2
04	One multiplexer can take the place of _____ a) Several SSI logic gates b) Combinational logic circuits c) Several Ex-NOR gates <b>d) Several SSI logic gates or combinational logic circuits</b>	L2
05	If the number of n selected input lines is equal to $2^m$ then it requires _____ select lines. a) 2 <b>b) m</b> c) n d) $2^n$	L3
06	How many select lines would be required for an 8-line-to-1-line multiplexer? a) 2 b) 4 c) 8 <b>d) 3</b>	L2
07	The enable input is also known as _____ a) Select input b) Decoded input <b>c) Strobe</b> d) Sink	L1
08	4 to 1 MUX would have _____ a) 2 inputs b) 3 inputs <b>c) 4 inputs</b> d) 5 inputs	L2

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09	The two input MUX would have _____ <b>a) 1 select line</b> b) 2 select lines c) 4 select lines d) 3 select lines	L2
10	A combinational circuit is one in which the output depends on the _____ <b>a) Input combination at the time</b> b) Input combination and the previous output c) Input combination at that time and the previous input combination d) Present output and the previous output	L3
11	Without any additional circuitry an 8:1 MUX can be used to obtain _____ a) Some but not all Boolean functions of 3 variables b) All function of 3 variables but none of 4 variables c) All functions of 3 variables and some but not all of 4 variables <b>d) All functions of 4 variables</b>	L2
12	One multiplexer can take the place of _____ a) Several SSI logic gates b) Combinational logic circuits c) Several Ex-NOR gates <b>d) Several SSI logic gates or combinational logic circuits</b>	L3
13	Why is a demultiplexer called a data distributor? <b>a) The input will be distributed to one of the outputs</b> 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	L4
14	Most demultiplexers facilitate which type of conversion? a) Decimal-to-hexadecimal <b>b) Single input, multiple outputs</b> c) AC to DC d) Odd parity to even parity	L3
15	In 1-to-4 multiplexer, if $C_1 = 0$ & $C_2 = 1$ , then the output will be _____ a) Y0 <b>b) Y1</b> c) Y2 d) Y3	L4
16	How many select lines are required for a 1-to-8 demultiplexer? a) 2 <b>b) 3</b> c) 4 d) 5	L4
17	How many AND gates are required for a 1-to-8 multiplexer? a) 2 b) 6 <b>c) 8</b> d) 5	L5

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18	Which IC is used for the implementation of 1-to-16 DEMUX? <b>a) IC 74154</b> b) IC 74155 c) IC 74139 d) IC 74138	L2
19	How many inputs will a decimal-to-BCD encoder have? a) 4 b) 8 <b>c) 10</b> d) 16	L2
20	How many outputs will a decimal-to-BCD encoder have? <b>a) 4</b> b) 8 c) 12 d) 16	L2
21	How is an encoder different from a decoder? <b>a) The output of an encoder is a binary code for 1-of-N input</b> b) The output of a decoder is a binary code for 1-of-N input c) The output of an encoder is a binary code for N-of-1 output d) The output of a decoder is a binary code for N-of-1 output	L3
22	If we record any music in any recorder, such types of process is called _____ a) Multiplexing <b>b) Encoding</b> c) Decoding d) Demultiplexing	L1
23	Can an encoder be a transducer? <b>a) Yes</b> b) No c) May or may not be d) Both are not even related slightly	L1
24	The discrepancy of 0 output due to all inputs being 0 or D0, being 0 is resolved by using additional input known as _____ <b>a) Enable</b> b) Disable c) Strobe d) Clock	L1
25	If two inputs are active on a priority encoder, which will be coded on the output? <b>a) The higher value</b> b) The lower value c) Neither of the inputs d) Both of the inputs	L2
26	How is an encoder different from a decoder? <b>a) The output of an encoder is a binary code for 1-of-N input</b>	L2

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	b) The output of a decoder is a binary code for 1-of-N input c) The output of an encoder is a binary code for N-of-1 output d) The output of a decoder is a binary code for N-of-1 output	
27	How many OR gates are required for a Decimal-to-bcd encoder? a) 2 b) 10 c) 3 <b>d) 4</b>	L2
28	For 8-bit input encoder how many combinations are possible? a) 8 <b>b) 2<sup>8</sup></b> c) 4 d) 2 <sup>4</sup>	L3
29	How many outputs are present in a BCD decoder? a) 4 b) 5 c) 15 <b>d) 10</b>	L2
30	What control signals may be necessary to operate a 1-line-to-16 line decoder? a) Flasher circuit control signal <b>b) A LOW on all gate enable inputs</b> c) Input from a hexadecimal counter d) A HIGH on all gate enable circuits	L3
31	How many inputs are required for a 1-of-10 BCD decoder? <b>a) 4</b> b) 8 c) 10 d) 2	L4