MODERN COMPUTER APPLICATION

CLASS - XII

QUESTION BANK

COMBINATIONAL LOGIC CIRCUIT

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

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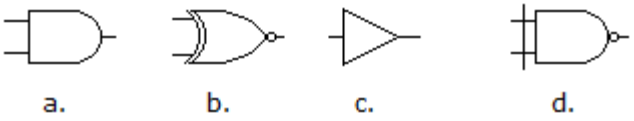
2. Which of the figures shown below represents the exclusive-NOR gate?



a. b. c. d.

   A. a

   B. b

   C. c

   D. d

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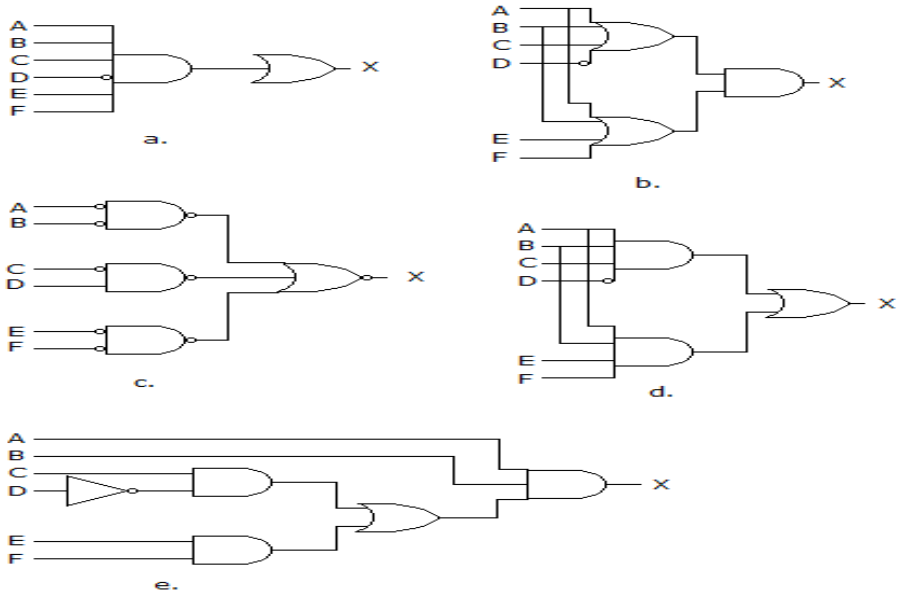
3. Which of the circuits in figure (a to d) is the sum-of-products implementation of figure (e)?



A. a

B. b

C. c

D. d

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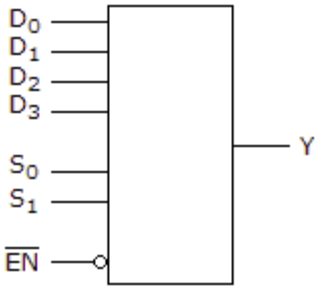
4. For the device shown here, let all D inputs be LOW, both S inputs be HIGH, and the $\overline{EN}$ input be LOW. What is the status of the Y output?



A. LOW

B. HIGH

C. Don't Care

D. Cannot be determined

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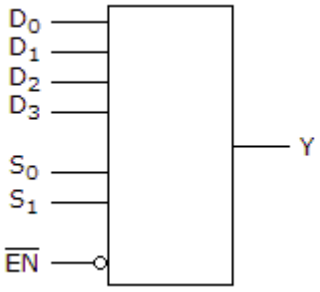
5. For the device shown here, let all D inputs be LOW, both S inputs be HIGH, and the $\overline{EN}$ input

be HIGH. What is the status of the Y output?



A. LOW

B. HIGH

C. Don't Care

D. not be determined

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6. Convert BCD 0001 0010 0110 to binary.

A. 1111110

B. 1111101

C. 1111000

D. 1111111

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7. A 74HC147 priority encoder has ten active-LOW inputs and four active-LOW outputs. What would be the state of the four outputs if inputs 4 and 5 are LOW and all other inputs are HIGH?

A. $\overline{A_0} = 0, \overline{A_1} = 0, \overline{A_2} = 1, \overline{A_3} = 1$

B. $\overline{A_0} = 1, \overline{A_1} = 1, \overline{A_2} = 0, \overline{A_3} = 1$

C. $\overline{A_0} = 1, \overline{A_1} = 0, \overline{A_2} = 1, \overline{A_3} = 0$

D. $\overline{A_0} = 0, \overline{A_1} = 0, \overline{A_2} = 1, \overline{A_3} = 1$

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8. Convert BCD 0001 0111 to binary.

A. 10101

B. 10010

C. 10001

D. 11000

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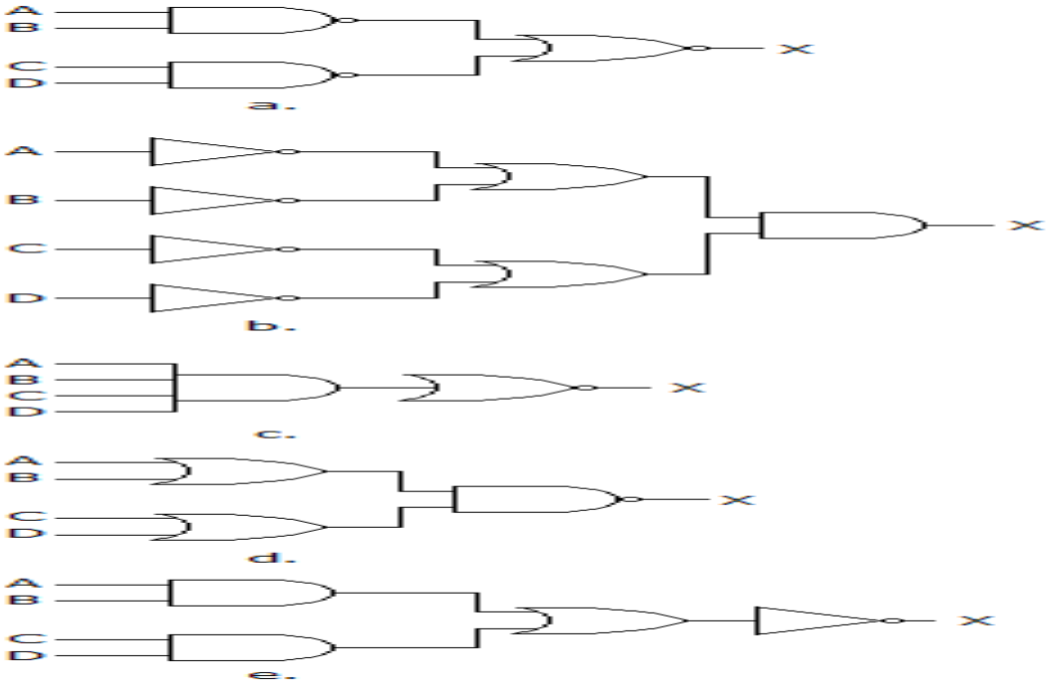
9. Which of the figures in figure (a to d) is equivalent to figure (e)?



A. a

B. b

C. c

D. d

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10. How many data select lines are required for selecting eight inputs?

A. 1

B. 2

C. 3

D. 4

11. The simplest equation which implements the K-map shown below is:

	$\overline{C}$	C
$\overline{A}\,\overline{B}$	0	0
$\overline{A}\,B$	1	1
$A\,B$	1	1
$A\,\overline{B}$	0	1

A. $X = AC + B$

B. $X = A\overline{B}$

C. $AB\overline{C} + ABC + A\overline{B}C$

D. $AB + \overline{A}B$

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12. How many 1-of-16 decoders are required for decoding a 7-bit binary number?

A. 5

B. 6

C. 7

D. 8

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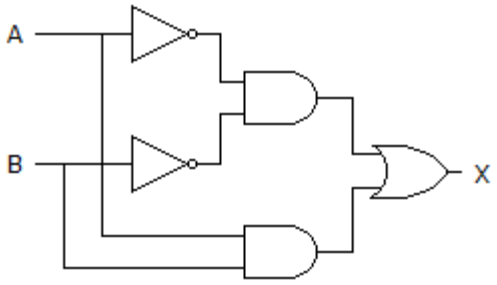
13. Which of the following logic expressions represents the logic diagram shown?



A. $X = A\,\overline{B} + \overline{A}\,B$

B. $X = \overline{A\,B} + A\,B$

C. $X = \overline{A\,B} + \overline{A}\,\overline{B}$

D. $X = \overline{A}\,\overline{B} + A\,B$

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14. The implementation of simplified sum-of-products expressions may be easily implemented into actual logic circuits using all universal _____ gates with little or no increase in circuit complexity. (Select the response for the blank space that will BEST make the statement true.)

A. AND/OR

B. NAND

C. NOR

D. OR/AND

15. Which of the following statements accurately represents the two BEST methods of logic circuit simplification?

A. Boolean algebra and Karnaugh mapping

B. Karnaugh mapping and circuit waveform analysis

C. Actual circuit trial and error evaluation and waveform analysis

D. Boolean algebra and actual circuit trial and error evaluation

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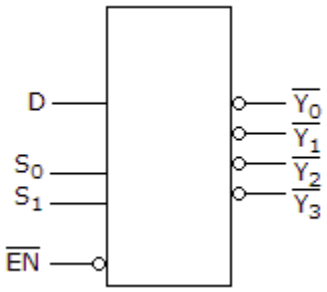
16. For the device shown here, assume the D input is LOW, both S inputs are HIGH, and the $\overline{EN}$ input is HIGH. What is the status of the $\overline{Y}$ outputs?



A. All are HIGH.

B. All are LOW.

C. All but $\overline{Y_0}$ are LOW.

D. All but $\overline{Y_0}$ are HIGH.

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17. Which of the following combinations cannot be combined into K-map groups?

A. Corners in the same row

B. Corners in the same column

C. Diagonal corners

D. Overlapping combinations

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18. As a technician you are confronted with a TTL circuit board containing dozens of IC chips. You have taken several readings at numerous IC chips, but the readings are inconclusive because of their erratic nature. Of the possible faults listed, select the one that most probably is causing the problem.

A. A defective IC chip that is drawing excessive current from the power supply

B. A solar bridge between the inputs on the first IC chip on the board

C. An open input on the first IC chip on the board

D. A defective output IC chip that has an internal open to V_{cc}

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19. Which gate is best used as a basic comparator?

A. NOR

B. OR

C. Exclusive-OR

D. AND

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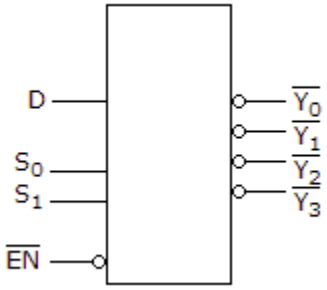
20. The device shown here is most likely a _____.



A. comparator

B. multiplexer

C. de multiplexer

D. parity generator

HTML

1. What is HTML?

2. What is the difference between HTML elements and tags?

3. What are Attributes and how do you use them?

4. What is the difference between a block-level element and an inline element?

5. When are comments used in HTML?

6. What are the HTML tags used to display the data in the tabular form?

7. How to create a Hyperlink in HTML?

8. Name some common lists that are used when designing a page.

9. What is semantic HTML?

10. How to create a nested webpage in HTML?

11. What is an image map?

12. Does a hyperlink only apply to text?

13. What is a Style Sheet?

14. Explain the layout of HTML.

15. What is a marquee?

16. What are the tags used to separate a section of texts?

17. What is the difference between DIV and SPAN in HTML?

SQL

1. What is the difference between SQL and MySQL?
2. What are the different subsets of SQL?
3. What do you mean by DBMS? What are its different types?
4. What do you mean by table and field in SQL?
5. What are joins in SQL?
6. What is the difference between CHAR and VARCHAR2 data type in SQL?
7. What is the Primary key?
8. What are Constraints?
9. What is the difference between DELETE and TRUNCATE statements?
10. What is a Unique key?

NETWORKING

1) What is a Network?

2) What is a Node?

3) What is Network Topology?

4) What are Routers?

5) What is the OSI reference model?

6) What are the layers in OSI Reference Models? Describe each layer briefly.

7) What is the difference between Hub, Switch, and Router?

8) Explain TCP/IP Model

9) What is HTTP and what port does it use?

10) What is HTTPs and what port does it use?

11) What are TCP and UDP?

12) What is a Firewall?

13) What is DNS?

14) What is the difference between a Domain and a Workgroup?

15) What is a Proxy Server and how do they protect the computer network?

16) What are IP classes and how can you identify the IP class of given an IP address?

17) What is meant by 127.0.0.1 and local host?

18) What is NIC?

19) What is Data Encapsulation?

20) What is the difference between the Internet, Intranet, and Extranet?

21) What are IP config and If config?

22) Explain DHCP briefly?

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