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|---|---|
| **Started on** | Thursday, 18 January 2024, 6:00 PM |
| **State** | Finished |
| **Completed on** | Thursday, 18 January 2024, 6:34 PM |
| **Time taken** | 34 mins 3 secs |
| **Grade** | **11.00** out of 11.00 (**100**%) |

Question **1**

Complete

Not graded

Given the circuit below, if M = 1, A = 0000 and B = 0000, then S is

a. The 2's complement of A

b. None

c. The 1's complement of A

d. The 2's complement of B

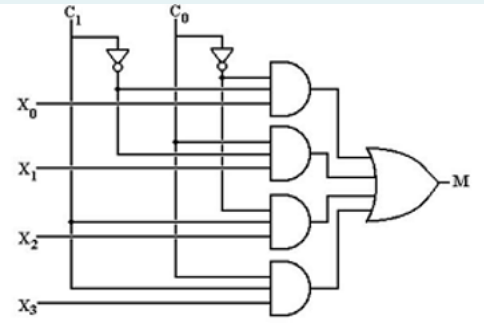
e. The 1's complement of B

Question **2**

Correct

Mark 1.00 out of 1.00

In the given 4 x 1 multiplexer, if c1 = 0 and c0 = 1 then the output M is _____ Select one or more:




a. X2

b. X3

c. X1 ✔

d. X0

e. None

Question **3**

Correct

Mark 1.00 out of 1.00

How many 3 x 8 line decoders with enable input are needed to construct a 6 x 64 line decoder?

- a. 9 ✔
- b. 7
- c. None
- d. 8
- e. 10

Question **4**

Correct

Mark 1.00 out of 1.00

The number of full and half adders required to add 32-bit numbers is _____

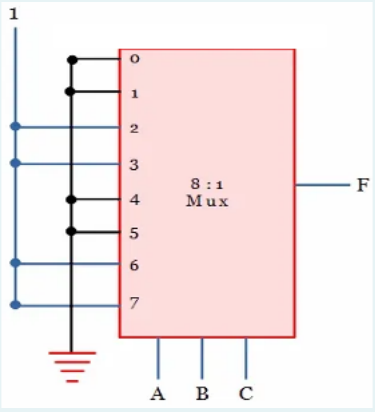
- a. None
- b. 8 half adders, 24 full adders
- c. 1 half adders, 31 full adders ✔
- d. 16 half adders, 16 full adders
- e. 32 half adders, 0 full adders

Question **5**

Correct

Mark 1.00 out of 1.00

The 8 x 1 multiplexer shown in the figure implements:




a. F(A,B,C) = ∏ (2,3,6,7)

b. None

c. F(A,B,C) = ∑ (0,1,4,5)

d. F(A,B,C) = ∏ (0,1,4)

e. F(A,B,C) = ∑ (2,3,6,7) ✔

Question **6**

Correct

Mark 1.00 out of 1.00

The output **Y** of a 2 bit comparator is logic 1 whenever the 2 bit input **A** is greater than the 2 bit input **B**. The number of combinations for which the output is logic 1, is

a. 4

b. 6 ✔

c. 10

d. 8

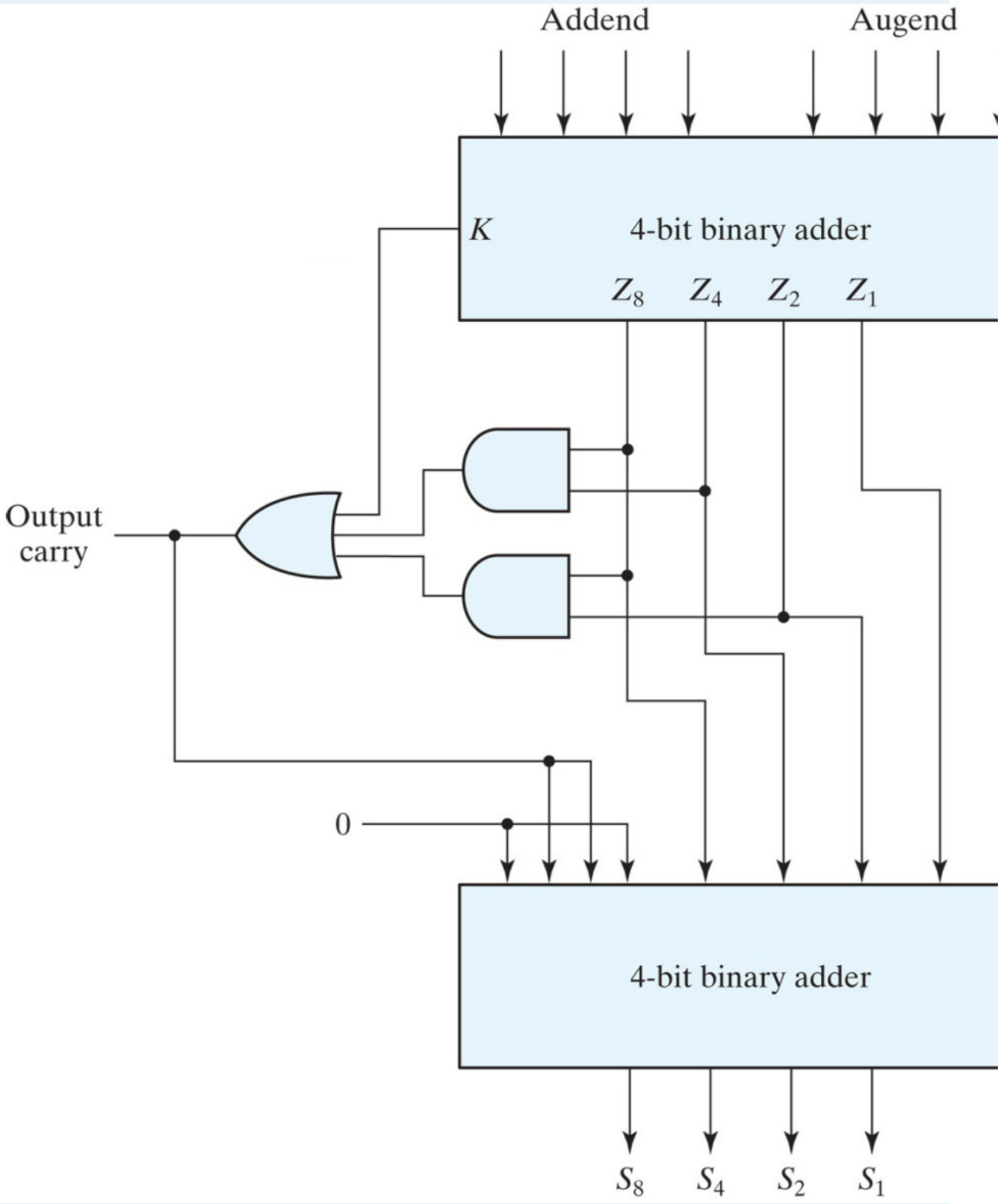
e. A will never be greater than B in any of the combinations

Question **7**

Correct

Mark 1.00 out of 1.00

In the below circuit, if the Added = $(7)_{BCD}$ and the Augend = $(9)_{BCD}$, then the [*Output_carry S8 S4 S2 S1*] = _____




a. None

b. 1 0110 ✔

c. 1 0001

d. 1 1001

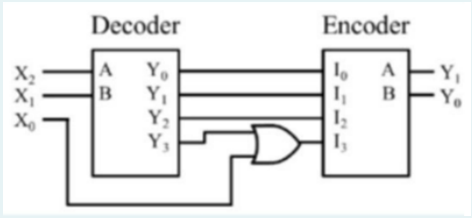
e. 0 0110

Question **8**

Correct

Mark 1.00 out of 1.00

Assume that I0 has the lowest priority, show the output Y1Y0 for X2X1X0= 111




a. 10

b. 11 ✔

c. None

d. 01

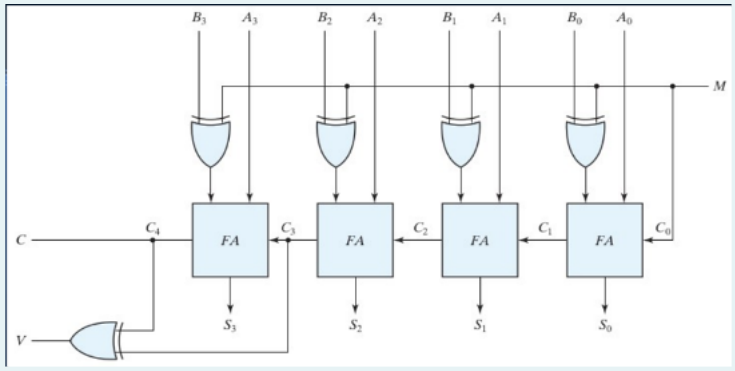
e. 00

Question **9**

Correct

Mark 1.00 out of 1.00

Given the circuit below, if M = 1, A = 1011 and B = 0111, then S is____




a. 1001

b. None

c. 0010

d. 0100 ✔

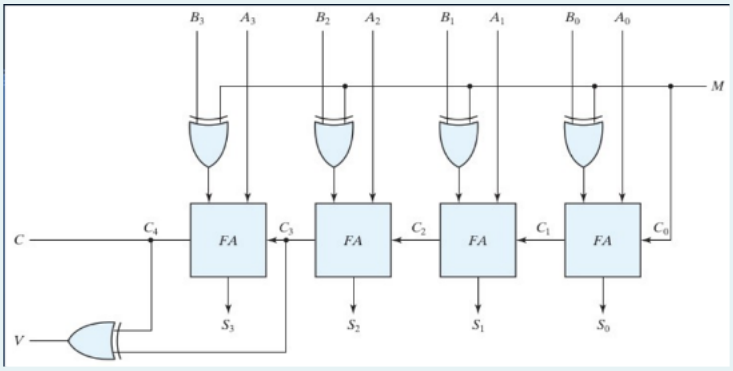
e. 1000

Question **10**

Correct

Mark 1.00 out of 1.00

Given the circuit below, when using M = 1, A = 1011 and B = 0111, then V indicates that an overflow bit is set.




- a. True ✔
- b. False

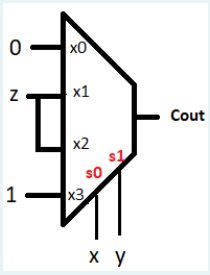
Question **11**

Correct

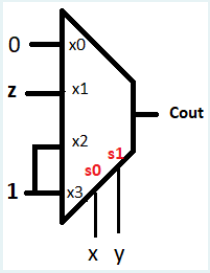
Mark 1.00 out of 1.00

Realize the carry-out function of the full-adder, using 4*1 MUX. Where F(x,y,z)= x+y+z.

a.

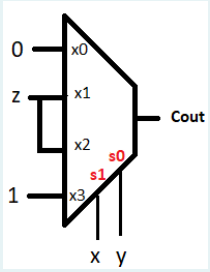



b.

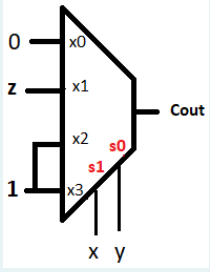



c. None

d. ✔




e.




Question **12**

Correct

Mark 1.00 out of 1.00

_____ converts binary coded information into unique outputs such as decimal, octal digits, etc.

a. Full Adder

b. Multiplexer

c. Decoder ✔

d. Encoder

e. Demultiplexer