

Table		Example		
A	B	C	S	C _o
0	0	0	0	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	1	0
1	0	1	0	1
1	1	0	0	1
1	1	1	1	1

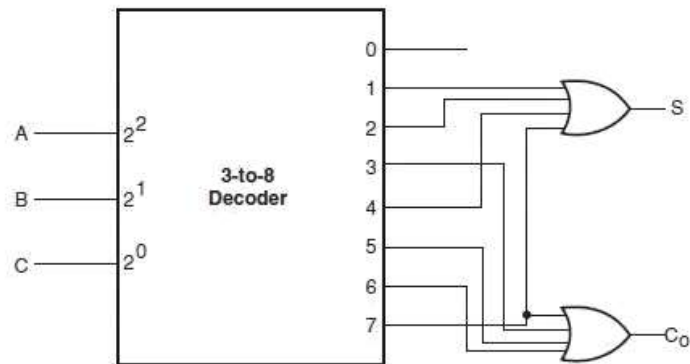


Figure Example

2 MARKS

1. Define combinational logic.

(or)

What is combinational logic

When logic gates are connected together to produce a specified output for certain specified combinations of input variables, with no storage involved, the resulting circuit is called combinational logic.

2. Explain the design procedure for combinational circuits.

(or)

Write short notes on design procedure for combinational circuits

The problem definition

- Determine the number of available input variables & required O/P variables.
- Truth Table Construction
- Obtain simplified Boolean expression for each O/P (using K-Map).
- Obtain the logic diagram.

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What is meant by half adder and full adder

Half Adder: The logic circuit that performs the addition of two bits is a half adder.

Full Adder: The circuit that performs the addition of three bits is a full adder

4. Define Decoder?

(or)

What is decoder

A decoder is a multiple - input multiple output logic circuit that converts coded inputs into coded outputs where the input and output codes are different

5. What is binary decoder?

(or)

Define binary decoder

A decoder is a combinational circuit that converts binary information from n input lines to a maximum of 2^n outputs lines.

6. Define Encoder?

(or)

What is encoder?

An encoder has 2^n input lines and n output lines. In encoder the output lines generate the binary code corresponding to the input value.

7. What is priority Encoder?

(or)

Define priority encoder

A priority encoder is an encoder circuit that includes the priority function. In priority encoder, if 2 or more inputs are equal to 1 at the same time, the input having the highest priority will take precedence.

8. Define multiplexer?

(or)

What is multiplexer?

Multiplexer is a digital switch. It allows digital information from several sources to be routed onto a single output line.

9. What is Demultiplexer?

(or)

Define demultiplexer

A Demultiplexer is a circuit that receives information on a single line and transmits this information on one of 2^n possible output lines

10. What is code conversion?

(or)

Define code conversion

If two systems working with different binary codes are to be synchronized in operation, then we need digital circuit which converts one system of codes to the other. The process of conversion is referred to as code conversion.

11. What is code converter?

(or)

Define code converter

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It is a circuit that makes the two systems compatible even though each uses a different binary code. It is a device that converts binary signals from a source code to its output code. One example is a BCD to Ex-3 converter.

12. Give the applications of Demultiplexer.

(or)

Write the applications of DMUX

- i. It finds its application in Data transmission system with error detection.
- ii. One simple application is binary to Decimal decoder.

13. Mention the uses of Demultiplexer.

(or)

Write the uses of DMUX

Demultiplexer is used in computers when a same message has to be sent to different receivers. Not only in computers, but any time information from one source can be fed to several places.

14. Give other name for Multiplexer and Demultiplexer.

(or)

What is the name for Multiplexer and Demultiplexer?

Multiplexer is otherwise called as Data selector. Demultiplexer is otherwise called as Data distributor.

15. What is the function of the enable input in a Multiplexer?

(or)

Write the function of the enable input in a multiplexer?

The function of the enable input in a MUX is to control the operation of the unit.

16. List out the applications of decoder?

(or)

Write the applications of decoder

Decoders are used in counter system.
They are used in analog to digital converter.
Decoder outputs can be used to drive a display system.

17. List out the applications of MUX?

(or)

Write the applications of MUX

They are used as a data selector to select one output of many data inputs.
They can be used to implement combinational logic circuits
They are used in time multiplexing systems.
They are used in frequency multiplexing systems.
They are used in A/D & D/A Converter.
They are used in data acquisition system