

Digital Design

COE 211

Sheet - 05

Choose the option that best fits your response.

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| <p>1. An inverter _____</p> <ul style="list-style-type: none">a) performs the NOT operationb) changes a HIGH to a LOWc) changes a LOW to a HIGHd) does all of the above <p>2. The output of an OR gate is LOW when _____</p> <ul style="list-style-type: none">a) any input is HIGHb) all inputs are HIGHc) no inputs are HIGHd) Both (a) and (b) <p>3. The output of an AND gate is LOW when</p> <ul style="list-style-type: none">a) any input is LOWb) all inputs are HIGH | <ul style="list-style-type: none">c) no inputs are HIGHd) Both (a) and (c) <p>4. The device used to convert a binary number to a 7-segment display format is the</p> <ul style="list-style-type: none">a) multiplexerb) encoderc) decoderd) register <p>5. An example of a data storage device is</p> <ul style="list-style-type: none">a) the flip-flopb) the comparatorc) the registerd) both answers (a) and (c) |
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6. fill in the blanks
- (a) _____ is a basic logic operation in which a true (HIGH) output occurs only when all the input conditions are true (HIGH)
 - (b) _____ is a binary digit, which can be either a 1 or a 0
 - (c) _____ is a circuit that changes a HIGH to a LOW or vice versa
 - (d) _____ is a basic logic operation in which a true (HIGH) output occurs when one or more of the input conditions are true (HIGH).

7. A basic 2-input logic circuit has a HIGH on one input and a LOW on the other, and the output is HIGH. Identify the circuit	8. A basic 3-input logic circuit has a LOW on one input and a HIGH on the other two inputs, and the output is LOW. What type of logic circuit is it?
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9. Develop the truth table for a 3-input AND gate.	10. Determine the total number of possible input combinations for a 4-input AND gate
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11. If two waveforms, A and B, are applied to the AND gate inputs, what is the resulting output waveform?

