**DIGITAL ELECTRONICS TEST -1**

|  |  |
| --- | --- |
| 1. | Convert hexadecimal value 17 to decimal. |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 2310 | [**B.**](javascript:%20void%200;) | 1610 | | [**C.**](javascript:%20void%200;) | 1010 | [**D.**](javascript:%20void%200;) | 2010 | |

|  |  |
| --- | --- |
| 2. | Convert the following decimal number to 8-bit binary 178 |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 101110112 | [**B.**](javascript:%20void%200;) | 110111012 | | [**C.**](javascript:%20void%200;) | 101100102 | [**D.**](javascript:%20void%200;) | 101111002 | |
| 5. | 3. Convert binary 1001110010 to hexadecimal. |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | EE216 | [**B.**](javascript:%20void%200;) | FF216 | | [**C.**](javascript:%20void%200;) | 2FE16 | [**D.**](javascript:%20void%200;) | 27216 | |
| 4. Convert the following binary number to decimal. 011111 |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 11 | [**B.**](javascript:%20void%200;) | 31 | | [**C.**](javascript:%20void%200;) | 15 | [**D.**](javascript:%20void%200;) | 10 | |
| Decode the following ASCII message.  1010011101010010101011000100101100101000001001000100000110100101000100 |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | STUDYHARD | | [**B.**](javascript:%20void%200;) | STUDY HARD | | [**C.**](javascript:%20void%200;) | stydyhard | | [**D.**](javascript:%20void%200;) | study hard | |

|  |  |
| --- | --- |
| 6. | Convert the decimal number 162.75 to binary. |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 10100010.11 | [**B.**](javascript:%20void%200;) | 11010011.01 | | [**C.**](javascript:%20void%200;) | 00111100.00 | [**D.**](javascript:%20void%200;) | 10010111.11 | |
| 7. The number of bits used to store a BCD digit is: | |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 8 | [**B.**](javascript:%20void%200;) | 4 | | [**C.**](javascript:%20void%200;) | 1 | [**D.**](javascript:%20void%200;) | 2 | | |

8. A number is represented in its 2’s complement form as 1100111 what is its decimal valu

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | | -25 | | [**B.**](javascript:%20void%200;) | 25 |
| [**C.**](javascript:%20void%200;) | | 27 | | [**D.**](javascript:%20void%200;) | -27 |
|  |  | |

9 the parity bit to be added to the data 11110000001 to make it in to even parity

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | 1 | [**B.**](javascript:%20void%200;) | 0 |
| [**C.**](javascript:%20void%200;) | 3 1s | [**D.**](javascript:%20void%200;) | No need |

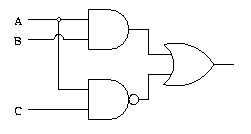
10 which of the following number system has two 0s

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | Sign magnitude form | [**B.**](javascript:%20void%200;) | 1’s complement form |
| [**C.**](javascript:%20void%200;) | 2’s complement form | [**D.**](javascript:%20void%200;) | None |

11 The gray code for the binary number 111001 is

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | 100101 | [**B.**](javascript:%20void%200;) | 000101 |
| [**C.**](javascript:%20void%200;) | 111010 | [**D.**](javascript:%20void%200;) | None |

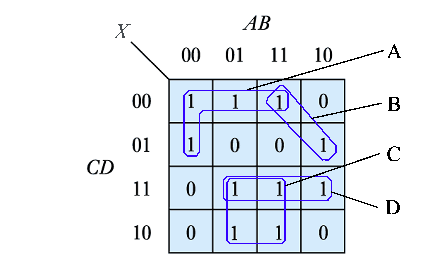
12 The Boolean expression suitable to the logic circuit is



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | | A+c | [**B.**](javascript:%20void%200;) | A+C+B | |
| [**C.**](javascript:%20void%200;) | |  | [**D.**](javascript:%20void%200;) | None | |
| 13. If a 3-input NOR gate has eight input possibilities, how many of those possibilities will result in a HIGH output? | | | |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 1 | [**B.**](javascript:%20void%200;) | 2 | | [**C.**](javascript:%20void%200;) | 7 | [**D.**](javascript:%20void%200;) | 8 | | | | |

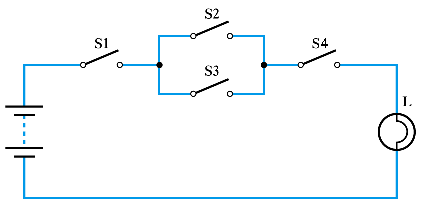
|  |  |
| --- | --- |
| 14. If a signal passing through a gate is inhibited by sending a LOW into one of the inputs, and the output is HIGH, the gate is a(n): | |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | AND | [**B.**](javascript:%20void%200;) | NAND | | [**C.**](javascript:%20void%200;) | NOR | [**D.**](javascript:%20void%200;) | OR | | |
|  | |
|  |  |

15. Which is correct grouping



|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | A | [**B.**](javascript:%20void%200;) | B |
| [**C.**](javascript:%20void%200;) | C | [**D.**](javascript:%20void%200;) | D |

16. What logic function corresponds to the following circuit?



|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | *L =*(S1 OR S2) AND (S3 OR S4). | [**B.**](javascript:%20void%200;) | *L =*S1 AND (S2 OR S3) AND S4 |
| [**C.**](javascript:%20void%200;) | *L =*S1 OR (S2 AND S3) OR S4 | [**D.**](javascript:%20void%200;) | *L =*(S1 OR S2) AND (S3 OR S4). |

17 number of switching functions of 3 variables is

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | 8 | [**B.**](javascript:%20void%200;) | 64 |
| [**C.**](javascript:%20void%200;) | 128 | [**D.**](javascript:%20void%200;) | 256 |

18. The Boolean expression can be minimized as



|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) |  | [**B.**](javascript:%20void%200;) |  |
| [**C.**](javascript:%20void%200;) |  | [**D.**](javascript:%20void%200;) |  |

19 the Boolean function AB+CD is to be realized using two input NAND gates. The minimum number of gates required is

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | 2 | [**B.**](javascript:%20void%200;) | 3 |
| [**C.**](javascript:%20void%200;) | 4 | [**D.**](javascript:%20void%200;) | 5 |

2o The logic expression is equal to

|  |  |  |  |
| --- | --- | --- | --- |
| [**A.**](javascript:%20void%200;) | A+B | [**B.**](javascript:%20void%200;) | A+NOT B |
| [**C.**](javascript:%20void%200;) | A-B | [**D.**](javascript:%20void%200;) | NOT A + B |