

These are sample MCQs to indicate pattern, may or may not appear in examination

University of Mumbai
Online Examination 2020

Program: SE Computer Engineering

Curriculum Scheme: Revised 2016

Examination: Second Year Semester III

Course Code: CSC302 and Course Name: Digital Logic Design and Analysis Time: 1hour

Max. Marks: 50

Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1. | Which is a correct statement? |
| Option A: | Digital signal has low noise immunity than analog signal. |
| Option B: | Analog signal consumes more power during transmission than digital signal. |
| Option C: | Digital system is more accurate compared to analog system. |
| Option D: | Digital system is easily prone to errors. |

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| Q2. | this input is forbidden from SR flip flop. |
| Option A: | 00 |
| Option B: | 01 |
| Option C: | 10 |
| Option D: | 11 |

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| Q3. | Race around condition occurs in _____ flip flop. |
| Option A: | SR |
| Option B: | JK |
| Option C: | D |
| Option D: | T |

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| Q4. | What is 2's complement of 1000 1100? |
| Option A: | 0111 0011 |
| Option B: | 0111 0001 |
| Option C: | 0111 0100 |
| Option D: | 0111 0101 |

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| Q5. | If input lines are N and Selection lines are M of multiplexer, how to represent relationship between them? |
| Option A: | $N = \log M$ (base 2) |
| Option B: | $M = \log N$ (base 2) |
| Option C: | $N = \log M$ (base 10) |
| Option D: | $M = \log M$ (base 10) |

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| Q6. | What is a correct statement? |
| Option A: | AND gate has same output as XNOR |
| Option B: | OR gate has same output as XNOR |
| Option C: | NAND gate has same output as bubbled OR |
| Option D: | NAND gate has same output as bubbled XOR |

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| Q7. | In base (2's, 8's, 16's) complement subtraction, after adding base complement of subtrahend to minuend, if carry is generated, then.... |
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| Option A: | carry is added to the sum, to get answer in original form. |
| Option B: | carry is ignored. |
| Option C: | result is negative so calculate its base complement |
| Option D: | result is positive and answer is not in its original form |

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| Q8. | In (base-1) complement subtraction(1's,7's and 15's C subtraction), after adding (base-1) complement of subtrahend to minuend, if carry is generated, then |
| Option A: | carry is added to the sum, to get answer in original form. |
| Option B: | result is positive and answer is in its original form |
| Option C: | result is negative so calculate its (base-1) complement |
| Option D: | carry is ignored |

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| Q9. | In half adder, carry is generated by |
| Option A: | ORing two input operands |
| Option B: | XORing two input operands |
| Option C: | XNORing two input operands |
| Option D: | ANDing two input operands |

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| Q10. | Which is correct statement regarding decoder? |
| Option A: | Number of input lines are more than number of output lines. |
| Option B: | Input lines are active low |
| Option C: | Output lines are active low |
| Option D: | Any number of output lines decoder can have , irrespective of number of input lines. |

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| Q11. | Full adder is implemented using half adder by using |
| Option A: | one half adder and one AND gate |
| Option B: | two half adders and one OR gate |
| Option C: | one half adder and one OR gate |
| Option D: | two half adders and one AND gate |

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| Q12. | Binary code for (1110)gray code is |
| Option A: | 1010 |
| Option B: | 1011 |
| Option C: | 1100 |
| Option D: | 0101 |

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| Q13. | Gray code for binary code (1011) is |
| Option A: | 1010 |
| Option B: | 0111 |
| Option C: | 1110 |
| Option D: | 0101 |

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| Q14. | What is result of $(23)_4 + (32)_4$, (add two numbers from base 4)? |
| Option A: | $(31)_4$ |
| Option B: | $(21)_4$ |
| Option C: | $(121)_4$ |
| Option D: | $(131)_4$ |

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| Q15. | What is octal representation of $(45.2)_{10}$? |
| Option A: | 55.3641 |
| Option B: | 55.1463 |
| Option C: | 45.1463 |
| Option D: | 54.3641 |

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| Q16. | What is hexadecimal representation of $(376)_8$? |
| Option A: | (FE)h |
| Option B: | (BE)H |
| Option C: | (EF)H |
| Option D: | (EB)H |

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| Q17. | In Sequential logic circuit, |
| Option A: | output depends only on input |
| Option B: | output depends on input and previous output |
| Option C: | output depends on previous output only |
| Option D: | None of the above |

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| Q18. | In Combinational logic circuit, |
| Option A: | output depends only on input |
| Option B: | output depends on input and previous output |
| Option C: | output depends on previous output only |
| Option D: | None of the above |

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| Q19. | D flip flop is obtained by |
| Option A: | Short circuiting JK ends |
| Option B: | inverting J to provide input K |
| Option C: | When JK=00 |
| Option D: | When JK=11 |

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| Q20. | Race around condition occurs, when JK flip flop is |
| Option A: | Positive edge triggered |
| Option B: | Negative edge triggered |
| Option C: | Level triggered |
| Option D: | switching time is greater than clock cycle time |

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| Q21. | What is decimal equivalent of $(101\ 1111)_2$? |
| Option A: | 80 |
| Option B: | 95 |
| Option C: | 86 |
| Option D: | 65 |

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| Q22. | What is excess 3 code of 1100 |
| Option A: | 1100 0011 |
| Option B: | 1111 |
| Option C: | 0011 1100 |

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| Option D: | 0011 |
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| Q23. | What is radix of numbering system which supports 0,1,2,3? |
| Option A: | 3 |
| Option B: | 4 |
| Option C: | 5 |
| Option D: | 6 |

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| Q24. | What is the result of $(45)_8 + (23)_8$? |
| Option A: | $(67)_8$ |
| Option B: | $(70)_8$ |
| Option C: | $(66)_8$ |
| Option D: | $(77)_8$ |

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| Q25. | What is $(78)_H + (B9)_H$? |
| Option A: | $(131)_H$ |
| Option B: | $(31)_H$ |
| Option C: | $(13A)_H$ |
| Option D: | $(A31)_H$ |