

Question Bank

Subject: Digital Techniques (DTE-313303)

- 2 1. Draw symbol, Boolean equation and truth table for 2 input AND gate.
- 1 2. Subtract using 2's compliment method $(35)_{10} - (5)_{10}$
- 1 3. Convert $(D8F)_{16}$ into binary and octal.
- 1 4. Perform the subtraction using 2'S Complement methods. $(52)_{10} - (65)_{10}$
- 1 5. Convert the following:
 - i) $(5C7)_{16} = (?)_{10}$
 - ii) $(2598)_{10} = (?)_{16}$
- 1 6. Convert: (i) $(AD92 . BC A)_{16} = (?)_{10} = (?)_8 = (?)_2$
- 2 7. Design NOT gate using NAND gate.
- 1 8. Convert $(1101011)_2 = ()_{16}$ and $(1111011)_2 = ()_8$
- 2 9. State and prove De Morgan's theorems.
- 1 10. Subtract following using Two's complement method. $(15)_{10} - (32)_{10}$
- 1 11. Find 1's and 2's complement of given number.
 - i) 010111
 - ii) 1111011
 - iii) 101010
- 1 12. Write table showing 0 to 15 decimal number and their equivalent binary, octal and hexadecimal number.
- 2 13. Draw symbol of 4 input OR gate and write its input?
- 1 14. Identify probable number system for the following numbers (any two)
 - i) 1010 ii) 357 iii) AC10
- 1 15. Define Radix or base and write the base of binary & Hexadecimal numbers?
- 1 16. Write rules for binary Addition and binary subtraction.
- 1 17. Add $(67)_{10}$ and $(23)_{10}$ in BCD.
- 2 18. List out any Eight Boolean laws.
- 1 19. Convert the given number $(104)_{10}$ in Binary, BCD, Gray and Excess-3 code.
- 2 20. Write truth table for given equation $Y = \bar{A} + BC + \bar{A}BC$
- 2 21. Simplify the given equation using Boolean laws and realize it by using basic gates.
$$Y = \overline{A+B} + \bar{C} (\overline{A+B})$$
- 1 22. Perform Subtraction using 2's Complement $(45)_{10} - (56)_{10}$