Assignment of Number System and Binary Codes

Addition and Subtraction

1. $(1011011)_2 + (100110)_2$
2. $(110000)_2 – (101101)_2$
3. $(1453)_8 + (5643)_8 =$
4. $(6572)_8 - (1634)_8 =$
5. $(5341)_8 + (6732)_8 =$
6. $(9A62)_{16} + (5983)_{16} =$
7. $(9857)_{16} + (A1C4)_{16} =$
8. $(2C57)_{16} + (9387)_{16} =$
9. $(5421)_6 - (4325)_6 =$
10. $(2341)_6 + (5324)_6 =$
11. $(1452)_6 + (3425)_6 =$
12. $(Y53X)_8 + (1Y53)_8 = (X211)_8$
13. $(3X217)_8 + (42X3Y)_8 = (1010Y4)_8$
14. $(345X)_6 + (41Y5)_6 = (1XYY1)_6$
15. $(5X3Y)_6 + (Y4X4)_6 = (YY055)_6$
16. **How many 0s are there in the given number after converting it in binary and also find the hexadecimal number?**

    $2 \times 8^4 + 3 \times 8^3 + 7 \times 8^2 + 1 \times 8^1 + 7 \times 8^0$

17. **How many 1s are there in the given number after converting it in binary and also find the Octal number?**

    $A \times 16^4 + 3 \times 16^3 + 7 \times 16^2 + 0 \times 16^1 + 4 \times 16^0$

18. **Convert the given number in BCD.**

    $(145)_{10} = (\quad)_{BCD}$

19. **Convert Binary to Gray code:**

    a. $(1101101)_2 =$

    b. $(100011)_2 =$

20. **Convert Gray code to Binary:**

    a. $(1011011) = (\ )_2$

    b. $(1001010) = (\ )_2$