Computer application.

A.

1) Base

2) (blank)

2) Aryabhatt

3) Binary

4) Octal

5) Decimal

6) 16

7) Binary

8. Computer

9) Decimal

10) ~~Decimal~~, Hexadecimal

11) 1.

12) 4

13) 8

a) 1×2^7 1×2^6 0×2^5 0×2^4 1×2^3 1×2^2 0×2^1 0

$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$

$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

$0 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 0$

$0 \times 2 \times 2 \times 2 \times 2 = 0$

$1 \times 2 \times 2 \times 2 = 8$

$1 \times 2 \times 2 = 4$

$0 \times 2 = 0$

$0 \times 1 = 0$

$128 + 64 + 8 + 4 = \boxed{204}_{10}$

b) 1×2^5 1×2^4 1×2^3 1×2^2 0×2^1 0×2^0

$1 \times 2 \times 2 \times 2 \times 2 \times 2 = 32$

$1 \times 2 \times 2 \times 2 \times 2 = 16$

$1 \times 2 \times 2 = 4$

$0 \times 2 = 0$

$$32 + 16 + 4 = [52]10$$

c) $1 \times 2^4 \quad 1 \times 2^3 \quad 1 \times 2^2 \quad 1 \times 2^1 \quad 1 \times 2^0$

$1 \times 2 \times 2 \times 2 \times 2 = 16$

$1 \times 2 \times 2 \times 2 = 8$

$1 \times 2 \times 2 = 4$

$1 \times 2 = 2$

$1 \times 1 = 1$

$16 + 8 + 4 + 2 + 1 = (31)10$

d) $1 \times 2^6 \quad 0 \times 2^5 \quad 0 \times 2^4 \quad 1 \times 2^3 \quad 0 \times 2^2 \quad 0 \times 2^1 \quad 1 \times 2^0$

$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

$0 \times 2 \times 2 \times 2 \times 2 \times 2 = 0$

$0 \times 2 \times 2 \times 2 \times 2 = 0$

$1 \times 2 \times 2 \times 2 = 8$

$0 \times 2 \times 2 = 0$

$0 \times 2 = 0$

$1 \times 1 = 1$

$64 + 8 + 1 = (73)10$

e) $1 \times 2^6 \quad 0 \times 2^5 \quad 0 \times 2^4 \quad 1 \times 2^3 \quad 1 \times 2^2 \quad 1 \times 2^1 \quad 0 \times 2^0$

$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

$0 \times 2 \times 2 \times 2 \times 2 \times 2 = 0$

$0 \times 2 \times 2 \times 2 \times 2 = 0$

$1 \times 2 \times 2 \times 2 = 8$

$1 \times 2 \times 2 = 4$

$1 \times 2 = 2$

$0 \times 1 = 0$

$64 + 8 + 4 + 2 = (78)10$

f) $1 \times 2^6 \quad 0 \times 2^5 \quad 0 \times 2^4 \quad 1 \times 2^3 \quad 0 \times 2^2 \quad 1 \times 2^1 \quad 0 \times 2$

$1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

$0 \times 2 \times 2 \times 2 \times 2 \times 2 = 0$

$0 \times 2 \times 2 \times 2 \times 2 = 0$

$1 \times 2 \times 2 \times 2 = 8$

$0 \times 2 \times 2 = 0$

$$1 \times 2 = 2$$

$$64 + 8 + 2 = (74)_{10}$$