

UNIT- 5th :- Digital Electronics (Sheet -1)

Q.1) Convert following decimal numbers into binary equivalents

- a) 37 b) 105.15 c) 87.375 d) 79.4 e) 0.75

Ans. – a)100101 b)1101001 c)1010111.011 d) 1001111.0110 e) 0.11

Q.2) what is the decimal equivalent of following binary number

- a) 11011101 b) 1011.101 c) 1001111.0110 d) 101101.1101 e) 10110111.1001

Ans. – a)27.625 b)11.625 c)79.375 d) 45.4375 e)183.5625

Q.3) Add following pairs of binary number

- a) 1010 & 111 b) 1101.101 & 111.011 c) 10111.11 & 11011.11

Ans. – a) 10001 b) 10101.000 c) 110011.10 d) 1001011.10

Q.4) Add binary numbers 1101.01, 1010.11, 10111.11 & 11011.11

Ans. – 1001011.10

Q.5) Subtract binary number ?

- a) 1100 - 0001 b) 110 - 001 c) 1101.01 - 1010.11 d) 11011.11 - 10111.11

- e) 111.111 - 101.010 f) 1010.010 - 111.111

Ans. – a) 1011 b) 101 c) 0010.10 d) 00100.00 e) 010.101 f) 0010.011

Q.6) Multiply following pairs of binary number

- a) 1101 & 110 b) 1011.101 & 101.010

Ans.- a)1001110 b)111101.000010

Q.7) Divide 2nd binary number from 1st

- a) 110 & 101101 b) 101 & 110110 c) 101 & 110101.11

Ans. – a)111.1 b) 101 c) 1010.11

Q.8) Represent +51 & -51 in signed magnitude, 1's complement & 2's complement form?

Ans.- +51≈0110011 in every form i.e. signed, 1's & 2's complement form

-51≈ 1110011(signed magnitude form) , 1001100(1's complement form) ,1001101(2's complement)

Q.9) Subtract using 1's complement ?

- a) 25 - 14 b) 10101 - 11011 c) 68.75 - 27.50

Ans. – a) 00001011 b) -00110 c)001010010100

Q.10) subtract using 2's complement ?

- a)10101 - 11011 b) 100101111.0100 - 000110111.1100 c) 111.10 – 010.11

Ans. – a) -00110 b)011110111.1000 c) 100.11

Q.11) Convert following Decimal into octal form

- a) 579 b) 378.93 c) 579.375 d) 391.4

Ans. – a) 1103 b) 572.7341 c) 1103.3 d) 607.3146

Q.12) Convert following octal number into equivalent decimal ?

- a) 1103.3 b) 607.3146 c) 1672.75

Ans. – a) 579.375 b) 391.39986 c) 954.953

Q.13) Convert following octal number into binary equivalent ?

- a) 367.52 b) 765.43

Ans. a) 011110111101010 b) 111110101100011

Q.14) Convert following binary number into octal number ?

- a) 10110.1101 b) 110101.101010 c) 10101111001.0111

Ans. – a) 26.64 b) 65.52 c) 2571.34

Q.15) Convert following Decimal number into hexadecimal equivalent ?

- a) 2338 b) 871.48 c) 1023

Ans. – a) 912 b) 367.7AE14 c) 3FF

Q.16) Convert following Hexadecimal number into Decimal equivalent ?

- a) 2AF b) 10F.2F c) 0.F27

Ans. – a) 687 b) 271.1835937 c) 0.94702

Q.17) Convert following Hexadecimal number into binary equivalent ?

- a) FEA b) 0.A25 c) 7CF d) 2B9D

Ans. – a) 11111101010 b) 0.101000100101 c) 011111001111 d) 0010101110011101

Q.18) Convert following binary number into Hexadecimal Number?

- a) 1100110.011010 b) 10110101111011 c) 111010011111

Ans. – a) 66.68 b) 2D7B c) E9F

Q.19) Convert Following octal number into Equivalent Hexadecimal number ?

- a) 347.52 b) 371 c) 436.207

Ans. – a) E7.A8 b) F9 c) 11E . 438

Q.20) Convert following into decimal ?

- a) 3A45 b) 5B6E

Ans. – a) 14917 b) 23406