

Unit-02

Number Systems MCQ

01.2011 A/L

The binary number equivalent to the 27_{10} is,

- (1) 000111 (2) 111000 (3) 011011 (4) 101011 (5) 111010

02. $C1A_{16} + 4A2_{16} =$

- (1) 523_{16} (2) FBC_{16} (3) FBB_{16} (4) $0BC_{16}$ (5) $10BC_{16}$

03.2012 A/L

The binary number equivalent to 37_{10} is

- (1) 0100101 (2) 0100111 (3) 0100100 (4) 0110110 (5) 0110111

04. $144_8 + 175_8 =$

- (1) 225_8 (2) 341_8 (3) 441_8 (4) 531_8 (5) 314_8

05. 2013 A/L

The binary number equivalent to the 25_{10} is

- (1) 0100101 (2) 0100111 (3) 0011001 (4) 0010110 (5) 0010111

06. $124_8 + 165_8 =$

- (1) 201_8 (2) 289_{10} (3) 289_8 (4) 311_8 (5) 389_8

07. What is the two's complement of -6_{10} ?

- (1) 11111010 (2) 00000110 (3) 11111001 (4) 01011111 (5) 00000101

08.2014 A/L

The decimal number equivalent to 110110_2 is

- (1) 40 (2) 39 (3) 38 (4) 37 (5) 36

09. $4A6_{16} + 99_{10} =$

- (1) 615_{16} (2) 615_{10} (3) 509_{10} (4) 509_{16} (5) 659_{16}

10. Representation of 5_{10} and -9_{10} in 8-bit two's complement forms are

- (1) 00000101 and 11110111 respectively (2) 11110111 and 11110111 respectively
(3) 00000101 and 10001001 respectively (4) 00000101 and 11110110 respectively
(5) 11110111 and 11110110 respectively

11.2015 A/L

The decimal number equivalent to 110110_2

- (1).39 (2) 48 (3) 54 (4) 55 (5)108

12. $48B_{16} + 00101011_2 =$

- (1) $4B6_{16}$ (2) 310_{16} (3) 503_{16} (4) 513_{16} (5) 559_{16}

13. What is the two's complement representation of 6_{10} ?

- (1) 11111010 (2) 00000110 (3) 11111001 (4) 01011111 (5) 00000101

14.2016 A/L

Which of the following binary numbers is equivalent to 109_{10} ?

- (1) 1100100_2 (2) 1101101_2 (3) 1001101_2 (4) 1101001_2 (5) 1101100_2

15. $101_{16} + 110_8 =$

- (1) 429_{10} (2) 1011_{10} (3) 329_{10} (4) 529_{10} (5) 137_{10}

16. What is the two's complement representation of 89_{10} ?

- (1) 01111011 (2) 01011001 (3) 10100111 (4) 01001001 (5) 01011101

17.2017 A/L

What is the two's complement representation of 45, if an integer is represented by 8 bits?

- (1) 11010011 (2) 10110011 (3) 11001101 (4) 00101111 (5) 00101101

18. Which of the following numbers is equivalent to the binary number 101111_2 ?

- (1) 57_8 (2) 57_{16} (3) 57_{10} (4) 59_{16} (5) $5F_{16}$

19. $5D_{16} + 10111_2 =$

- (1) 73_8 (2) 75_{16} (3) 116_8 (4) 163_8 (5) 164_8

20. What is the binary representation of 9.25_{10} ?

- (1) 1110011101 (2) 00001001.01 (3) 0000100101 (4) 1000100101 (5) 10001001.01

21.2018 A/L

Consider the following three number in decimal, octal and hexadecimal notations, respectively

A - 231_{10}

B - 347_8

C - $E7_{16}$

Which of the above is/are equivalent to 11100111_2 in binary notation?

- (1) A only (2) B only (3) A and C only (4) B and C only (5) All A, B and C

22. What is the decimal equivalent to the binary 110101.11_2 ?

- (1) 53.00_{10} (2) 53.50_{10} (3) 53.75_{10} (4) 54.25_{10} (5) 54.75_{10}

23.2019 A/L

What is the binary equivalent to decimal 54.25 ?

- (1) 00011111.11 (2) 00101010.01 (3) 00110110.01
(4) 00111011.1 (5) 00111110.1

24. Which of the following represents the result of the binary arithmetic operation of $11001100 - 01010101$?

- (1) 00110011 (2) 01100110 (3) 01110111 (4) 10011001 (5) 10101010

25.2020 A/L

What is the 2's complement of decimal -12 ?

- (1) 00001100 (2) 00110011 (3) 11110011 (4) 11110100 (5) 11111011

26. Which of the following is true about 2's complement?

- (1) An extra bit is used to represent the sign.
(2) Makes it possible to build low-cost, high-speed hardware to perform arithmetic operations.
(3) Addition and subtraction are used as two different operations.
(4) Usually represented in hexadecimal number system.
(5) Used in first generation computers to perform logic operations.

27. Consider the character representations in Table 1 and Table 2 given below:

Table 1:

ଫ	ଫ	ଫ	ଫ
0D85	0D86	0D87	0D88

Table 2:

୨	୩	୪	୫
0B85	0B86	0B87	0B88

In which of the character encoding systems given below, the above characters in Table 1 and Table 2 are represented?

- (1) Both Tables 1 and 2 : in ASCII
- (2) Both Tables 1 and 2 : in UNICODE
- (3) Table 1: in ASCII, Table 2: in UNICODE
- (4) Table 1: in EBCDIC, Table 2: in ASCII
- (5) Table 1: in UNICODE, Table 2: in ASCII

28.2021 A/L

What is the correct 2's complement binary representation of decimal -32_{10} using 8-bits?

- (1) 00100000
- (2) 10100000
- (3) 11011111
- (4) 11100000
- (5) 11100001

29. What is the correct decimal equivalent of hexadecimal 88.8_{16} ?

- (1) 88.5_{10}
- (2) 88.8_{10}
- (3) 129.5_{10}
- (4) 136.5_{10}
- (5) 136.8_{10}

30.2022 A/L

What is the correct binary equivalent of decimal 12.75_{10} ?

- (1) 101101₂
- (2) 1011.11₂
- (3) 1100.00₂
- (4) 1100.11₂
- (5) 1100.01₂

31. What is the correct 2's complement binary representation of decimal -41_{10} using 8-bits?

- (1) 00101001
- (2) 01010110
- (3) 10101001
- (4) 11010110
- (5) 11010111

32. The address of an instructions was shown as **10f9** in hexadecimal. What is that address in decimal?

- (1) 25
- (2) 1249
- (3) 4343
- (4) 10159
- (5) 16249

33.2023 A/L

What is the correct binary equivalent of decimal 13.125_{10} ?

- (1) 1100.001
- (2) 1100.100
- (3) 1101.001
- (4) 1101.100
- (5) 1101.101

34. Which of the following are equivalent to octal 674_8 ?

A- 110 111 100₂

B- 444₁₀

C- 2BC₁₆

- (1). A only
- (2) A and B only
- (3) A and C only
- (4) B and C only
- (5) All A,B and C

35. A particular command can be used to output the values of every byte in a file in decimal format. Assume a file contains the following text:

Love trees!

Referring the two **Notes (i) and (ii)** given below, select the correct output that will result when the said command is run on that file.

- (1) 76 111 118 101 32 116 114 101 101 115 10
 (2) 76 111 118 101 116 114 101 101 115 33 10
 (3) 76 111 118 101 32 116 114 101 101 115 33 10
 (4) 108 111 118 101 116 114 101 101 115 33 10
 (5) 108 111 118 101 32 116 114 101 101 115 33 10

Notes:

- (i) Some selected rows from the ASCII table are given below:

Decimal	Character
10	(LINE FEED)
32	(SPACE)
33	!
76	L
101	e

Decimal	Character
108	l
111	o
114	r
115	s
116	t
118	v

- (ii) The file ends with a LINEFEED character.

36. The address of an instruction was shown as 5A1 in hexadecimal. What is that address in decimal?
 (1) 41 (2) 1441 (3) 1457 (4) 2641 (5) 23056
37. A document contains 2048 characters including spaces and line-breaks. How many bits are needed to encode this document in ASCII also using the parity bits?
 (1) 2048 (2) 2048 x 2 (3) 2048 x 7 (4) 2048 x 8 (5) 2048 / 8
38. What is the correct 2's complement binary representation of decimal -49_{10} using 8-bits?
 (1) 00110001 (2) 01100010 (3) 10011110 (4) 11001111 (5) 11100010
39. A particular command can be used to output a text file in its binary format. Assume a file contains the following text:

0 Waste!

Referring the **Important Notes (i) and (ii)** given below. Select the correct output that will result when the said command is run on that file.

- (1).00110000 00100000 01010111 01100001 01110011 01110100 01100101 00001010
 (2).00110000 01010111 01100001 01110011 01110100 01100101 00100001 00001010
 (3).00110000 00100000 01010111 01110011 01110100 01110100 01100101 00100001 00001010
 (4).00110000 00100000 01110111 01100001 01110011 01110100 01100101 00100001 00001010
 (5).00110000 00100000 01010111 01100001 01110011 01110100 01100101 00100000 00001010

Important notes:

- (i). The file ends with a LINE FEED character.

(ii).Some selected rows from 7-bit ASCII table are given below.

Character	Binary
(LINE FEED)	0001010
(SPACE)	0100000
!	0100001
0	0110000
W	1010111

Character	Binary
a	1100001
c	1100101
s	1110011
t	1110100
w	1110111

40.2024 A/L

What is the correct Binary equivalent of decimal 14.25_{10} ?

- (1) 1001.10 (2) 1010.11 (3) 1011.01 (4) 1110.01 (5) 1111.10

41. What is the correct decimal equivalent of octal 120_8 ?

- (1) 10 (2) 17 (3) 80 (4) 136 (5) 640

42. Which of the following are correct?

(I) : $EB_{16} = 1110\ 1011\ 0111_2$

(II) : $84_{10} = 1010100_2$

(III) : $753_8 = 1001011_2$

- (1) I only (2) I and II only (3) I and III only
 (4) II and III only (5) All I, II and III

43. The second and third rows of the following table contain two English words and their binary representations according to the ASCII code. The binary representation of No! kept blank.

Word	Binary representation
no	1101110 1101111
N!	1001110 0100001
No!	

What is the correct replacement for the blank?

- (1).0100001 1001110 1101111
 (2).1001110 0100001 1101111
 (3).1001110 1101111 0100001
 (4).1101110 0100001 1101111
 (5).1101110 1101111 0100001

44. $11001_2 + 10001_2 =$

- (1) 101010₂ (2) 101011₂ (3) 101100₂ (4) 111001₂ (5) 111010₂