

Type A : Short Answer Questions/Conceptual Questions

1. What are some number systems used by computers ?
2. What is the use of Hexadecimal number system on computers ?
3. What does radix or base signify ?
4. What is the use of encoding schemes ?
5. Discuss UTF-8 encoding scheme.
6. How is UTF-8 encoding scheme different from UTF-32 encoding scheme ?
7. What is the most significant bit and the least significant bit in a binary code ?
8. What are ASCII and extended ASCII encoding schemes ?
9. What is the utility of ISCII encoding scheme ?
10. What is Unicode ? What is its significance ?
11. What all encoding schemes does Unicode use to represent characters ?
12. What are ASCII and ISCII ? Why are these used ?
13. What are UTF-8 and UTF-32 encoding schemes. Which one is more popular encoding scheme ?
14. What do you understand by code point ?
15. What is the difference between fixed length and variable length encoding schemes ?

Type B : Application Based Questions

1. Convert the following binary numbers to decimal : (a) 1101 (b) 111010 (c) 101011111
2. Convert the following binary numbers to decimal : (a) 1100 (b) 10010101 (c) 11011100
3. Convert the following decimal numbers to binary : (a) 23 (b) 100 (c) 145 (d) 0.25
4. Convert the following decimal numbers to binary : (a) 19 (b) 122 (c) 161 (d) 0.675
5. Convert the following decimal numbers to octal : (a) 19 (b) 122 (c) 161 (d) 0.675
6. Convert the following hexadecimal numbers to binary : (a) A6 (b) A07 (c) 7AB4
7. Convert the following hexadecimal numbers to binary : (a) 23D (b) BC9 (c) 9BC8
8. Convert the following binary numbers to hexadecimal :
(a) 10011011101 (b) 1111011101011011 (c) 11010111010111
9. Convert the following binary numbers to hexadecimal :
(a) 1010110110111 (b) 10110111011011 (c) 01101011100
10. Convert the following octal numbers to decimal : (a) 257 (b) 3527 (c) 123 (d) 605.12
11. Convert the following hexadecimal numbers to decimal : (a) A6 (b) A13B (c) 3A5
12. Convert the following hexadecimal numbers to decimal : (a) E9 (b) 7 CA3
13. Convert the following decimal numbers to hexadecimal : (a) 132 (b) 2352 (c) 122 (d) 0.675
14. Convert the following decimal numbers to hexadecimal : (a) 206 (b) 3619
15. Convert the following hexadecimal numbers to octal :
(a) 38 AC (b) 7FD6 (c) ABCD
16. Convert the following octal numbers to binary : (a) 123 (b) 3527 (c) 705

17. Convert the following octal numbers to binary :
- (a) 7642 (b) 7015 (c) 3576 (d) 705
18. Convert the following binary numbers to octal :
- (a) 111010 (b) 110110101 (c) 1101100001
19. Convert the following binary numbers to octal :
- (a) 11001 (b) 10101100 (c) 111010111
20. Add the following binary numbers :
- (i) 10110111 and 1100101 (ii) 110101 and 101111
(iii) 110111.110 and 11011101.010 (iv) 1110.110 and 11010.011
21. Given that A's code point in ASCII is 65, and a's code point is 97. What is the binary representation of 'A' in ASCII? (and what's its hexadecimal representation). What is the binary representation of 'a' in ASCII?
22. Convert the following binary numbers to decimal, octal and hexadecimal numbers.
- (i) 100101.101 (ii) 10101100.01011
(iii) 1010 (iv) 10101100.010111