

ITES

Class-XI

Module-1(Question – Answer)

A. Multiple choice questions

1. Which of the following is not represented as data (a) image (b) audio sound (c) video file (d) drama (d)
2. Which of the following is not a data encoding system (a) ASCII (b) EBCDIC (c) Number system (d) Unicode (c)
3. Which of the following code is used by computer (a) Decimal (b) Binary (c) Octal (d) Hex (b)
4. Which of the following data take largest amount of space in memory (a) picture file (b) audio file (c) video file (d) text file (c)
5. Data is processed by (a) Keyboard (b) Memory (c) Processor (d) Monitor (c)
6. Which of the following is fixed length Unicode system (a) UTF-8 (b) UTF-16 (c) UTF-32 (d) UTF-64 (c)
7. Which of the following encoding system has uses highest number of bits (a) BCD (b) ASCII (c) EBCDIC (d) Unicode (d)
8. Which of the following number system is used to represent color codes (a) binary (b) octal (c) hexadecimal (d) decimal (c)
9. How many bits are used by the Unicode encoding system (a) 8 (b) 16 (c) 32 (d) All of the above (c)
10. Which of the following color uses the same code as 0 to represent a color code in any number system (a) Black (b) White (c) Yellow (d) Grey (a)

B. Fill in the blanks

1. The data is stored in computer in the form of _____.
 2. The smallest unit of data is _____.
 3. The process of converting data into machine code is called as _____.
 4. In positional number system a numeric value is represented through increasing power of _____.
 5. How many bits are required to represent a color code _____.
 6. The _____ number system also uses alphabets to represent its symbol.
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C. True and False

1. Data means facts or set of values.
 2. Useful knowledge about data can be obtained without processing it.
 3. Data cannot be measured and analysed.
 4. Data can be visualised.
 5. Data is converted into machine code after processing.
 6. BCD system used 4 bits to represent a digit.
 7. Only 10 digits can be represented by BCD system.
 8. Pie chart, bar graphs and line graph can be used to visualize data.
 9. Data generated by the electronic devices such as mobile phone is called as analog data.
 10. ASCII code of capital and small alphabets are the same.
 11. ASCII encoding system uses 7 bit or 8 bits to represent a character.
 12. EBCDIC coding system uses 8 bits to represent 256 characters.
 13. All the encoding system have the same code.
 14. All the encoding system communicate with each other.
 15. It is possible to convert a number from any number system to any other number system.
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D. Short Answer Question

1. What is data and information? Explain with example.
 2. Classify the following data and information (a) Roll Number (b) Mobile Number (c) School Attendance Record (d) School Report Card (e) Digits (f) Alphabets (g) Video recorded by smartphone (h) Height (I) Weight
 3. Write the acronym for the following (i) ASCII (ii) BCD (iii) EBCDIC
 4. What is difference between positional and non-positional number system
 5. What do you mean by base or radix of number system. What is the base values of binary, octal and hexadecimal number system?
 6. Convert the following binary numbers to its decimal, octal and hexadecimal equivalent
(i) 110101 (ii) 1011000 (iii) 1110.100 (iv) 101110.1011
 7. Convert the following decimal numbers to its equivalent binary, Octal and Hexadecimal
(i) 178 (ii) 6253 (iii) 257.25 (iv) 359.125
 8. Convert the following octal numbers to its equivalent binary, Decimal and Hexadecimal
(i) 531 (ii) 756 (iii) 376.64 (iv) 705.125
 9. Convert the following hexadecimal numbers to its equivalent binary, Decimal and Octal
(i) BA1 (ii) 79C.D (iii) DAC.34F (iv) DAF.12B
 10. Convert the following decimal number to other number systems.
(i) $(54)_{10} = (?)_2$ (ii) $(120)_{10} = (?)_2$ (iii) $(76)_{10} = (?)_8$
(iv) $(889)_{10} = (?)_8$ (v) $(789)_{10} = (?)_{16}$ (vi) $(108)_{10} = (?)_{16}$
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Answer of all Question



A. Multiple Choice Questions (प्रश्न और उत्तर)

1. Which of the following is not represented as data
👉 Answer: (d) drama
2. Which of the following is not a data encoding system
👉 Answer: (c) Number system
3. Which of the following code is used by computer
👉 Answer: (b) Binary
4. Which data takes largest memory space
👉 Answer: (c) video file
5. Data is processed by
👉 Answer: (c) Processor
6. Fixed length Unicode system
👉 Answer: (c) UTF-32

7. Encoding system with highest bits

👉 Answer: (d) Unicode

8. Number system for colour codes

👉 Answer: (c) hexadecimal

9. Bits used by Unicode

👉 Answer: (d) All of the above

10. Colour code for 0

👉 Answer: (a) Black

 B. Fill in the Blanks (रिक्त स्थान भरें)

1. Data is stored in computer in the form of 👉 binary

2. Smallest unit of data 👉 bit

3. Converting data to machine code 👉 encoding

4. Positional system uses powers of 👉 base

5. Bits for color code 👉 24

6. Number system using alphabets 👉 hexadecimal

 C. True or False (सही या गलत)

1. Data means facts or values –  True

2. Knowledge without processing –  False

3. Data can't be measured –  False

4. Data can be visualised –  True

5. Data converted after processing –  False

6. BCD uses 4 bits –  True

7. Only 10 digits in BCD –  True

8. Graphs used for visualization –  True

9. Mobile data is analog – ❌ False
10. ASCII codes same for cases – ❌ False
11. ASCII uses 7 or 8 bits – ✅ True
12. EBCDIC uses 8 bits – ✅ True
13. All encoding systems same – ❌ False
14. All encoding systems communicate – ❌ False
15. Conversion between systems possible – ✅ True
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D. Short Answer Questions (संक्षिप्त उत्तर)

1. What is data and information?

👉 Data: Raw facts (e.g., 178, "A")

👉 Information: Processed data (e.g., "Roll no 178 belongs to Ravi")

2. Classify the following

- Roll Number – Data
- Mobile Number – Data
- School Attendance Record – Data
- School Report Card – Information
- Digits – Data
- Alphabets – Data
- Video recorded by smartphone – Data
- Height – Data
- Weight – Data

3. Acronyms

- ASCII: American Standard Code for Information Interchange
- BCD: Binary Coded Decimal
- EBCDIC: Extended Binary Coded Decimal Interchange Code

4. Positional vs Non-positional

- Positional: Value depends on position (e.g., 345)
- Non-positional: Symbols have fixed value (e.g., Roman numerals)

5. Base or Radix

👉 Base is the number of unique digits used

- Binary: 2
- Octal: 8
- Hexadecimal: 16

Number System Conversions

6. Binary to Decimal, Octal, Hex

Binary	Decimal	Octal	Hex
110101	53	65	35
1011000	88	130	58
1110.100	14.5	16.4	E.8
101110.1011	46.6875	56.54	2E.B

7. Decimal to Binary, Octal, Hex

Decimal	Binary	Octal	Hex
178	10110010	262	B2
6253	1100001111101	14175	186D
257.25	100000001.01	401.2	101.4
359.125	101100111.001	547.1	167.2

8. Octal to Binary, Decimal, Hex

Octal	Binary	Decimal	Hex
531	101011001	345	159
756	111101110	494	1EE
376.64	111110110.110100	254.8125	FE.B
705.125	111000101.001	453.125	1C5.2

9. Hex to Binary, Decimal, Octal

Hex	Binary	Decimal	Octal
BA1	101110100001	2977	5611
79C.D	011110011100.1101	1948.8125	3647.64
DAC.34F	110110101100.001101001111	3500.207	6654.1517
DAF.12B	110110101111.000100101011	3503.297	6657.1125

10. Decimal to Other Systems

Decimal	Binary	Octal	Hex
54	110110	—	—
120	1111000	—	—
76	—	114	—
889	—	1571	—
789	—	—	315
108	—	—	6C