Brain International School
Vikas Puri, New Delhi

REVISION SHEET

SUBJECT: COMPUTER SCIENCE CLASS-XI JAN,2026

UNIT 1 : COMPUTER SYSTEM ORGANISATION

1. What is a computer system? Explain the functioning units of computer system.
2. Define the term “hardware” and “software”. Give two examples of each.
3. Differentiate between system software and application software.
4. What is the role of the CPU in a computer system? Explain its major parts
5. A coaching institute conducts online tests for students. Students enter their answers using a keyboard and mouse. The questions and results are displayed on the screen. The test data and student responses are saved so that they can be accessed later for result analysis. Answer the below questions based on the above text.

a) Name two input devices used by students during the online test.
b) Identify the output device used to display questions and results.
c) Which type of memory is used to store test data permanently?
d) Why is secondary storage preferred over RAM for storing examination records?

6. What is data representation? Why is binary number system used in computers?
7. Convert the following:
   a. Convert $(73)_{10}$ into binary.
   b. Convert $(110101)_2$ into decimal.
   c. Convert $(156)_8$ into decimal.
   d. Convert $(2F)_{16}$ into decimal.
   e. Convert $(101011)_2$ into octal.
   f. Convert $(345)_8$ into binary.
   g. Convert $(1001101)_2$ into hexadecimal.
   h. Convert $(59)_{10}$ into octal.
   i. Convert $(7A)_{16}$ into binary.
   j. Convert $(111001)_2$ into decimal.

8. Differentiate between ASCII and Unicode. (Any two points)
9. What is character representation? Explain ASCII code with one example.
10. Draw truth tables and logical circuits for the following expressions
    1. $F = A \cdot B + \bar{B} \cdot C + A \cdot \bar{C}$
    2. $X = (A + \bar{B}) \cdot (B + C)$
    3. $P = \bar{A} \cdot (B + C) + A \cdot \bar{C}$
    4. $Z = (A \cdot B) + (\bar{A} \cdot \bar{B})$

UNIT 2 : COMPIUTATIONAL THINKING AND PROGRAMMING
QUESTIONS BASED ON THEORETICAL CONCEPTS

1. What is a programming language? Why is Python called a high-level language?
2. Explain the features of Python that make it suitable for beginners as well as professionals.
3. Differentiate between syntax errors, runtime errors, and logical errors with suitable examples.
4. What are tokens in Python? Explain different types of tokens with examples.
5. What are variables in Python? Explain dynamic typing with an example.
6. Differentiate between mutable and immutable data types. Name two examples of each.
7. Explain different types of operators in Python. Give examples of any four.
8. What is operator precedence? Why is it important in Python expressions?
9. Explain different ways of taking input in Python. Why is type conversion often required with input?
10. What is type casting? Differentiate between implicit and explicit type conversion.
11. Explain the working of if–elif–else statement. When is it preferred over nested if?
12. Differentiate between conditional expressions and conditional statements.
13. Differentiate between for loop and while loop. Give situations where each is preferred.
14. Explain the use of break, continue, and pass statements in Python.
15. What is an infinite loop? Mention one situation where it may occur unintentionally.
16. What are strings in Python? Explain string indexing and slicing with examples.
17. Explain any four commonly used string methods and their purpose.
18. Differentiate between lists and tuples on the basis of mutability, performance, and usage.
19. Explain dictionaries in Python. How are keys different from values?
20. Why is Python called an interpreted language? How does it affect program execution?
21. What is indentation in Python? Why is it mandatory, unlike in many other programming languages?
22. What are comments in Python. Differentiate between single-line and multi-line comments.
23. What is the difference between = and == operators in Python? Explain with examples.
24. Explain membership operators in Python. Where are they commonly used?
25. What are logical operators in Python? Explain their working using truth values.
26. What is the purpose of the `range()` function? Explain its different forms.
27. Differentiate between `append()` and `extend()` methods of a list.
28. Explain the concept of string immutability in Python. How does it affect string operations?
29. What is the difference between `del`, `pop()`, and `remove()` in Python lists?
30. Explain the use of the `len()` function with syntax and example.

QUESTIONS BASED ON PROGRAMMING

1.Write a Python program to input two numbers and print the greater number.

2. Write a Python program to check whether a string is palindrome or not without using reverse slice or reverse function.

3. Write a Python program to calculate the **sum of digits** of a given number..

4. Write a Python program to calculate the sum of numbers from 1 to n (user input).

5. Write a Python program to find the factorial of a number using a while loop.

6. Write a Python program to check whether a given number is positive, negative or zero.

7 Write a Python program to reverse a given number.

8. Write a Python program to check whether a number is a **palindrome**.

9. WAP to create a list of 10 strings (using for loop) and display all the strings whose first and last characters are the same.

10. WAP that repeatedly asks the user to enter product names and prices as long as he wishes to. Store all of them in a dictionary whose keys are product names and values are prices. And also write a code to search an item from the dictionary and display its price.

11. WAP that prompts the user for a string. Extract all the digits from the string, if there are digits.

Sum the collected digits together and print the original string and the sum of the digits.

If there are no digits print the original string and a message “Has no Digits”

12. Write a Python program to print the following pattern:

1

1 2

1 2 3

1 2 3 4

13. Convert into for loop:

```
i = 1
while i <= 5:
  print(i*i)
  i += 1
```

UNIT 3: SOCIETY, LAW AND ETHICS

1. Define cybercrime.
2. What are intellectual property rights, explain types?
3. Differentiate between ethical hacking and cracking with suitable examples.
4. What is plagiarism? Mention two ways to avoid plagiarism. Also explain why plagiarism is harmful in academics.
5. What is the purpose of cyber laws?
6. State any two cybercrimes related to email.
7. What is a digital footprint? How can it become a threat to an individual's privacy? Explain its types with an example each.
8. What is the role of ethics in the use of computers?
9. Differentiate between proprietary software and open-source software.
10. State some ways to prevent cybercrime.
11. Case Study – Software Piracy

Rohit installs a paid photo-editing software on his computer using a cracked version downloaded from the internet. He also shares it with his friends.

Questions:

a) Identify the cybercrime committed.
b) Which law does this violate?
c) Mention one ethical way to use such software.

12. Case Study – Plagiarism

A student copies content from the internet and submits it as his project without giving credit to the original author.

Questions:

a) Name the unethical practice involved.
b) Which intellectual property right is violated?
c) Suggest one method to avoid this issue.

13. Case Study – Identity Theft

Meena receives an email asking her to share her bank details urgently. She responds and later finds money missing from her account.

Questions:

a) Identify the cybercrime.
b) What mistake did Meena make?
c) Suggest two preventive measures.

14. Case Study – Hacking

Aakash gains unauthorized access to his school's computer system to change his attendance record.

Questions:

a) What type of cybercrime is this?
b) Is this act ethical? Give reason.
c) Name one possible consequence of this act.

15. Case Study – Social Media Misuse

A user posts offensive comments and morphed images of a classmate on social media.

Questions:

a) Identify the cybercrime involved.
b) Mention one cyber law or ethical principle violated.
c) Suggest one responsible behaviour while using social media.