



B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

PRE BOARD-II EXAM: 2025-26 INFORMATION TECHNOLOGY (802)

SET-02/802

Class: XII (SUBJECT-4)

Date: 09-12-2025

Admission No. :

Time : 3 hrs.

Max Marks: 60

Roll No. :

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 24 questions in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. Out of the given (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section has 06 questions.
 - ii. There is no negative marking.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (30 MARKS):**
 - i. This section has 18 questions.
 - ii. A candidate has to do 11 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION A: OBJECTIVE TYPE QUESTIONS

Q.(1) Answer any 4 out of the given 6 questions on Employability Skills.

(4 x 1 = 4)

(i) Dhruv shifted all the loyal workers from his burnt factory to another unit to ensure their safety and job security. This shows his:

- | | |
|-------------------------------------|-----------------------|
| a) Confidence in himself | b) Proper supervision |
| c) Care for employees' well-being * | d) Target planning |

(ii) A sentence that expresses strong feelings and typically ends with an exclamation mark is called a/an _____.

- | | |
|----------------|------------------|
| a) Declarative | b) Exclamatory * |
| c) Imperative | d) Interrogative |

(iii) Which of the following statements is incorrect about physiological motives?

- a) They arise from bodily needs such as hunger and thirst.
- b) Psychological motives involve achievement and affiliation.
- c) Physiological motives push behaviour to fulfil essential physical requirements.
- d) They consist of emotional and mental traits. *

(iv) Samaira invests her entire evening in solving mock tests because she wants to secure admission to her desired college. This situation reflects:

- a) Intrinsic motivation b) Extrinsic motivation *
- c) Inspiration d) Self-management

(v) A _____ sentence shares straightforward information and always ends with a full stop.

- a) Declarative sentence *
- b) Interrogative sentence
- c) Imperative sentence d) Exclamatory sentence

(vi) _____ reorganizes selected data permanently, whereas filtering only hides unrelated entries without removing them.

- a) Charts b) Predefined functions
- c) Sorting *
- d) Solver

Q.(2) Answer any 5 questions out of the given 7 questions (5 x 1 = 5)

(i) Java supports a fixed number of primitive data types. How many are there, and write any two.

Ans: 8 primitive types; examples: int, char

(ii) A minimum set of fields that uniquely identify a row in a table is known as a _____.

- (a) Candidate Key (b) Super Key
- (c) Alternate Key (d) Primary Attribute

(iii) What are aggregate functions ?

Ans: Aggregate functions perform calculations on multiple rows (e.g., SUM, AVG, COUNT).

(iv) In SQL, while applying condition on a group, instead of WHERE clause clause is used.

Ans: HAVING clause is used instead of WHERE for group conditions.

(v) command displays list of databases available in the current server.

Ans: Show databases;

(vi) Which of the following is **NOT** considered a relational operator?

- (a) > (b) = (c) + * (d) !=

(vii) Which SQL command will show all employee names that include the letter 'a' anywhere in the Name field?

- (a) SELECT Name FROM Employee WHERE Name LIKE "%a%"; *
- (b) SELECT Name FROM Employee WHERE Name = "%a%";
- (c) SELECT Name FROM Employee WHERE Name LIKE "a%";
- (d) SELECT Name FROM Employee WHERE Name IN ("a", "%a");

Q.(3) Answer any 6 questions out of the given 7 questions (6 x 1 = 6)

(i) Which constraint ensures that a column cannot have NULL values?

Ans: NOT NULL

(ii) Name any two aggregate functions used in SQL?

Ans: SUM, COUNT, AVG, and MAX

(iii) Consider the table, Cars given below:

Table: Cars

MID	NAME	BRAND	CAPACITY	COLOR
H101	I20	HYUNDAI	5	WHITE
M012	XUV500	MAHINDRA	5	BLUE
H131	VERNA	HYUNDAI	5	BLUE

Identify the degree and cardinality of the table Vehicle.

Ans: 5 Degree and 3 cardinality

- (iv) How can users improve the safety of their passwords when making online payments?
- Using personal info like birthdate
 - Using a mix of letters, numbers, and symbols *
 - Writing the password on paper
 - Sharing the password with friends
- (v) Consider the following table: PRODUCTS

ID	PNAME	PRICE
P001	PEN	50
P002	NOTEBOOK	120
P003	PENCIL	20

Identify the Primary key and Foreign key of the table ORDERS.

- (vi) What kind of online courses does Khan Academy provide?
- Free *
 - Paid
 - Mobile wallets
 - Internet banking
- (vii) What does the R in IRCTC stand for?
- Robot
 - Rover
 - Railway *
 - None of these

Q.(4) Answer any 5 questions out of the given 6 questions.

(5 x 1 = 5)

- The first step in online shopping is to :
 - Visit the websites *
 - Open your smartphone
 - Use your debit card
 - None of these
- The _____ aggregate function in SQL is used to find the average values of a numeric column:
 - Average() *
 - Avg()
 - Mean()
 - Mid()
- NICNET – A national satellite based computer network in India was launched in the year :
 - 1986
 - 1987 *
 - 1990
 - 1992
- State True or False :**
The customer can select the goods to be purchased and store them in their online shopping basket. (True)
- Which Java statement is used to stop a loop before it finishes all its iterations?
 - break *
 - exit
 - continue
 - stop
- Adrisa wanted to book her flight to attend an international conference on “Women and AI”. She needs to book her tickets using an online reservation system. Help her to follow the correct sequence of steps to do the same.
 - Make the payment
 - Open the online reservation website
 - Choose the dates of travel
 - Browse and search for the required information
 - B, D, C, A *
 - A, B, C, D
 - A, D, C, B
 - B, A, D, C

Q.(5) Answer any 5 questions out of the given 6 questions

(5 x 1 = 5)

- (i) **State True or False :**

Fixing of all the application bugs and fixing them is part of the Testing Phase of the project.

Ans: False

- (ii) Aparna wanted to remove the table PERSONAL permanently from the database SCHOOL. Write the command to help her do the same.

Ans: Drop table PERSONAL

- (iii) A named constraints in a table can be easily deleted or updated using the _____ command.

Ans: Alter table

- (iv) Differentiate between the following two java statements:

char Alpha= "A"; //Statement #1

String Name= "Ajay"; //Statement #2

Ans: Statement #1 uses char type for a single character, Statement #2 uses String for text.

- (v) What happens if the condition specified in an "if" statement evaluates to false ?

- (a) The program terminates
- (b) The code block associated with the "if" statement is skipped. *
- (c) The code block associated with the "if" statement is executed
- (d) An exception is thrown.

- (vi) A Java compiler instead of translating Java code to machine language code, translates it into

Ans: Bytecode

Q.(6) Answer any 5 questions out of the given 6 questions

(5 x 1 = 5)

- (i) What will be the result of the following code?

String s = "JAVA";

System.out.println(s.length());

- (a) 3 (b) 4 * (c) 5 (d) Error

- (ii) The wrapper class of the primitive type char in Java is

Ans: Character

- (iii) Which keyword is used to prevent a method from being overridden in Java?

- (a) static (b) final * (c) private (d) protected

- (iv) What is the result of the following code snippet ?

String str = "Hello";

System.out.println(str.indexOf('l'));

- (a) 1 (b) 2 * (c) 3 (d) -1

- (v) Which Java loop checks the condition **after** executing the loop body at least once?

- (a) for (b) while (c) do-while * (d) None of these

- (vi) What property of a table is avoided with the use of primary key ?

- (a) Data inconsistency * (b) Data privacy breach
(c) Data redundancy (d) Online data search

SECTION B: SUBJECTIVE TYPE QUESTIONS

Answer any 3 out of the given 5 questions on Employability Skills.

(3 x 2 = 6)

Answer each question in 20-30 words.

Q. (7) Define : (a) active listening (b) Sentence

Ans: (a) Active Listening

Active listening means paying full attention to the speaker, understanding their message, responding appropriately, and remembering what is said. It involves eye contact, nodding, asking questions, and giving feedback.

(b) Sentence

A sentence is a group of words that expresses a complete idea or thought. It always begins with a capital letter and ends with a full stop, question mark, or exclamation mark

Q. (8) What are personality disorders ? Write about 2 such personality disorders.

Ans: Personality disorders are mental health conditions where a person's way of thinking, feeling, and behaving is different from what is expected, causing problems in daily life and relationships.

Two examples:

1 ☐ **Antisocial Personality Disorder**

- The person may ignore rules, disrespect others' rights, and show aggressive or irresponsible behavior.

2 ☐ **Obsessive-Compulsive Personality Disorder (OCPD)**

- The person is extremely rigid, perfectionist, and worries too much about rules and order, making daily tasks difficult

Q. (9) Describe any two mathematical operators used in OpenOffice Calc.

Ans: Any (+, -, *, /)

Q. (10) Rohan has a successful startup company. According to him "Decision Making is considered to be one of the important entrepreneurial competency". Do you agree with Rohan's opinion ? Justify.

Ans: Yes, I agree with Rohan's opinion. Decision making helps an entrepreneur:

Choose the best solution among different options

Manage risks and solve problems quickly

Plan business activities effectively

Take actions that help the business grow

Therefore, good decision making is necessary for the success of a startup or any business.

Q. (11) Rohit noticed that plastic waste was a major issue in his school. He initiated a campaign encouraging students to carry reusable water bottles and lunch boxes. Which green skill is Rohit promoting through his initiative? Explain.

Ans: Rohit is promoting **Waste Management** as a green skill.

By encouraging students to use **reusable** water bottles and lunch boxes, he is:

- Reducing plastic waste in school
- Promoting recycling and reuse
- Creating awareness about environmental protection

His initiative motivates others to adopt sustainable practices and keep the environment clean.

Answer any 3 out of the given 5 questions on Subject Specific Skills.

(3 x 2 = 6)

Q.(12) What are the benefit of naming a constraint?

Ans: • Helps in identifying and modifying constraints easily.

- Improves database management and clarity in SQL commands.

Q.(13) Write SQL command to create the following table : (Table Name : Gadget)

Column Name	Datatype
G_ID	Char(4)
Description	Varchar(20)
Manufacture_Date	Date
Price	Decimal
Warranty	Int

Ans: **Ans: CREATE TABLE Gadget (**
G_ID CHAR(4),
Description VARCHAR(20),
Manufacture_date DATE,
Price DECIMAL,
Warranty INT

);

Q.(14) Give the output of the following code segment of Java-

```
int x = 1;
while (x <= 5)
{
    System.out.print(x + " ");
    x += 2;
}
```

Ans: 1 3 5

Q.(15) Rewrite the following code after correcting the syntax errors, underline each correction made:

```
int sum = 0;
for (int i = 1; i <= 4; i++)
{
    sum = sum + i;
}
System.out.println(sum);
```

Ans: 10

Q.(16) What are comments in Java programs and why are they important?

Ans: Comments are non-executable statements used to explain code.

They are important because they improve readability, help debugging, and allow developers to understand logic easily.

Answer any 2 out of the given 3 questions on Subject Specific Skills.

(2 x 3 = 6)

Q.(17) Explain the following aggregate functions with examples.

(a) COUNT (b) SUM (c) MIN

Ans:

The **COUNT** function is used to **count the total number of records** or values in a column.

The **SUM** function is used to **add all numeric values** in a column.

The **MIN** function returns the **smallest or minimum value** from a column.

Q.(18) Consider the following string variable :

String str1 = "Hello";

String str2 = "morning";

Write the code statements in Java :

(a) To convert the first letter of a string variable "str1" into uppercase.

(b) To convert combined length of string str1 and str2.

(c) To display str1 and str2 after joining them.

Ans:

System.out.println(str1.toUpperCase().charAt(0));

System.out.println(str1.length() + str2.length());

System.out.println(str1 + str2);

Q.(19) What is the way in which DBMS and programming is useful in the application of banking, e-commerce and payroll management systems ?

Ans: DBMS and programming help automate and securely manage large data in **banking, e-commerce, and payroll** systems. They allow quick processing, accurate calculations, secure transactions, and efficient report generation.

Answer any 3 out of the given 5 questions on Subject Specific Skills.

(3 x 4 = 12)

Q.(20) Write short notes on the following :

(a) End User (b) DB Administrator (c) Application Programmer (d) System Analyst

Ans: (a) **End User** – A person who directly uses the software or database system.

(b) **DB Administrator (DBA)** – Manages database access, security, performance, and maintenance.

(c) **Application Programmer** – Writes software code to interact with the database and perform various functions.

(d) **System Analyst** – Analyzes requirements and designs solutions to improve system performance.

Q.(21) Write the steps involved in online shopping.

Ans: 1 **Search or Select a Website/App**

- The customer opens an online shopping website or app like Amazon, Flipkart, etc.

2 **Browse or Search for Products**

- Products are viewed by searching keywords or browsing categories.

3 **Choose a Product**

- The customer selects a product and checks the details such as price, size, color, reviews, and ratings.

4 **Add to Cart**

- The selected product is added to the online shopping cart for purchase.

5 **Proceed to Checkout**

- The customer reviews the items in the cart and clicks on the checkout option.

6 **Login or Enter Personal Details**

- The customer logs in or enters required details like name, phone number, and delivery address.

7□ **Select Payment Method**

- The customer chooses a payment option such as:
 - Cash on Delivery (COD)
 - Debit/Credit Card
 - UPI/Net Banking
 - Wallets

8□ **Place the Order**

- The order is confirmed and the customer receives an SMS/Email with order details.

9□ **Order Processing & Shipping**

- The company packs the product and sends it for delivery.

10 **Delivery and Receiving the Product**

- The product is delivered to the customer's address.

11 **Return/Exchange (if needed)**

- If not satisfied, the customer can request a return or exchange.

Q.(22) Write a program in Java to take two strings as input and report their lengths.

Ans: `public static void main(String[] args) {
 Scanner sc = new Scanner(System.in);

 System.out.println("Enter first string: ");
 String s1 = sc.nextLine();

 System.out.println("Enter second string: ");
 String s2 = sc.nextLine();

 System.out.println("Length of first string: " + s1.length());
 System.out.println("Length of second string: " + s2.length());
}`

Q.(23) a. Consider the following code and answer the following questions:

```
public class Main {  
    static int MyMethod(int N) {  
        return (N * N);  
    }  
  
    public static void main(String[] args) {  
        System.out.println(MyMethod(7));  
    }  
}
```

i) Name the user defined method.

ii) What will be the output on executing the above code?

Ans: i) MyMethod ii) 49

b. What is exception handling in Java?

Ans: Exception handling in Java is a way to **handle errors** during program execution without stopping the entire program. It helps the program continue running even if something goes wrong.

Exceptions are unexpected events like:

- Dividing a number by zero
- File not found
- Invalid input

Exception handling makes the program **safe and user-friendly**.

Q.(24) Give the output for the following code:

```
String myString = "Welcome to Java";  
System.out.println(myString.concat("Session"));  
System.out.println(myString.length());  
System.out.println(myString.replace("to", "2"));  
System.out.println(myString.toUpperCase());
```

Ans: Welcome to JavaSession

17

Welcome 2 Java

WELCOME TO JAVA

***** **ALL THE BEST** *****