



B.K. BIRLA CENTRE FOR EDUCATION

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

PRE BOARD 3 EXAM : 2025-26

Marking Scheme IT (802) Set-02

Class: XII (SUBJECT-4)

Date:

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) _____ is an important element in communication as it helps in knowing whether the receiver has understood the message or not.

Ans: Feedback

(ii) Personal hygiene is important because it helps us to :

- (I) Stay healthy (II) Create a good image of ourselves
(III) Feel ashamed in public (IV) Stay unhealthy

Choose the correct option :

- (a) Both (I) and (II) * (b) Both (ID) and (IV)
(c) Only (IV) (d) Only (III)

(iii) _____ is about understanding ones own needs, desires, habits traits, behaviours and feelings.

- (a) Result orientation (b) Self-motivation
(c) Self-awareness * (d) Time management

(iv) What needs to be installed on your computer to run Impress?

- (a) LibreOffice * (b) Microsoft Office

(c) Apple iOS (d) Google

(v) The ability to work with others is

- (a) Organisational skills (c) Interpersonal skills *
(b) Perseverance (d) Initiative

(vi) In which year was the NAPCC launched?

Ans: June 2008

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 of the following is not a Database Management System (DBMS)?

- (a) MySQL (b) Oracle
(c) DB2 (d) MS Word *

(ii) In a relational model, a row in a relation is called a _____. Ans: tuple

(iii) Alternate of if else is:

- (a) switch.. case * (c) for
(b) while (d) do while

(iv) A/An _____ is a useful mechanism for effectively identifying and correcting logical errors in a Java program.

- (a) Exception Handling (b) Wrapper Class
(c) Method (d) Assertion *

(v) In which phase of web application development process, can one fix all the bugs and validate the modified code of the application?

- (a) Requirement and definition phase (b) Design phase

- (c) Implementation phase (d) Testing phase *

(vi) While shopping online, one has the option to make the payment only when the product is delivered at the given shipping address. For this, one must select ... option on Payments page of the shopping website. Ans: COD

(vii) If you don't know the address of any website, you can useengine.

- (a) Research (b) Machine
(c) Enquiry (d) Search *

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

(5 x 1 = 5)

(i) The first step in online shopping is to :

- (a) Visit the website * (b) Open your smartphone
(c) Use your debit card (d) None of these

(ii) In which phase of the web application creation is design of the application created ?

- (a) Requirement definition (b) Implementation
(c) Design * (d) Testing

(iii) **State True or False :**

Stanford University offers a wide range of undergraduate and graduate level courses for free through its OpenCourseWare platform. (False)

(iv) Shopping online is a task. It provides efficient search tools and filters that allow customers to easily locate products. (Convenient)

(v) In online reservation your transactions are to you. Online reservation systems are secured. (safe)

(vi) Which method / function is used to concatenate two strings in Java ?

- (a) Concat()* (b) add()
(c) join() (d) merge()

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

(5 x 1 = 5)

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

A class cannot be declared as Private in Java. (True)

(ii) What is the use of the main() method in a Java program?

Ans: It acts as the entry point of every Java program.

(iii) The result of the Java expression below is a

(5>3) && (8<9)

Ans: True

(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: (vi) Bytecode

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

(5 x 1 = 5)

- (i) In self-referencing tables, aconstraint can reference columns within the same table.
(a) Primary key (b) Check
(c) Default (d) Foreign key *
- (ii) To retrieve all the columns in a table, we can usesyntax.
(a) SELECT \$ FROM < tablename >; (b) SELECT* FROM < tablename >; *
(c) SELECT* < tablename >; (d) SELECT % FROM < tablename >;
- (iii) Boolean data type can store of data.
(a) 1 bit * (b) 32 bits
(c) 8 bits (d) 16 bits
- (iv) What will be the output of Java Code snippet given below ?
int a = 30;
int b = 10;
a - = b;
System.out.println(a);
Ans: 20
- (v) string function helps to find the character in a given index.
(a) charAt () * (b) indexOf()
(c) length () (d) endsWith()
- (vi) Give examples of any two online educational websites.
Ans: Khanacademy.com, ncert.com

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 = 10;
while (x <= 20)
{
    System.out.print(x + " ");
    x += 2;
}
```

Ans: 10 12 14 16 18 20

Q.(15) What will be the output of the above code?

```
for (int i = 5; i <= 15; i += 2)
{
    System.out.print(i + " ");
}
```

Ans: 5 7 9 11 13 15

Q.(16) Explain the use of any two Assignment operator used in JAVA?

Ans: Assignment Operator (=): This operator assigns the value of the right-hand operand to the left operand.

- Add and Assignment (+=): This operator performs addition on the two operands and assigns the result to the left operand. A += B is same as A = A + B
- Subtract and Assignment (-): This operator performs subtraction on the two operands and assigns the result to the left operand. A - = B is same as A = A - B
- Multiply and Assignment (*=) : This operator performs multiplication on the two operands and assigns the result to the left operand. A* = B is same as A = A*B
- Divide and Assignment (/=): This operator performs division on the two operands and assigns the result to the left operand. A/=B is same as A = A/B
- Modulus and Assignment (%=): This operator performs division on the two operands, calculate remainder and assign it to the left operand. A% = B is same as A = A%B

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) Nitya is creating a Java program to calculate the area of a rectangle. She writes the following code:

```

class Rectangle {
    int length;
    int width;

    int calculateArea() {
        return length * width;
    }

    public static void main(String[] args) {
        Rectangle r1 = new Rectangle();
        r1.length = 5;
        r1.width = 10;
        System.out.println("Area: " + r1.calculateArea());
    }
}

```

- What does the method calculateArea() do in this program?
- How is the object of the class created?
- What will be the output of the program?

Ans:

- The method calculateArea() calculates and returns the area of the rectangle by multiplying its length and width.
- The object of the class is created using: **Rectangle r1 = new Rectangle();**
- Area: 50**

Q.(19) Explain the application of database management system in hotels.

Ans: Check-In/Check Out

- Customer/Guest Management
- Rooms Management
- Booking/Reservation
- Information regarding hotel staff
- Payment & Revenue management
- Food & Delivery management
- To manage employee records and track attendance
- To maintain hotel amenities
- Print bills and reports.

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

(3 x 4 = 12)

Q.(20) Write a method Disp_sal() in Java to display Net Salary on the basis of Basic Salary, Allowance and Deductions to be passed as arguments of type double. (Net Salary = Basic Salary + Allowance Deductions). If the Net Salary is more than 50,000, additional 2000 bonus is added. Also display Net Salary.

Ans:

```

void Disp_sal (double basic, double allowance, double ded)
{
double Net_salary=basic + allowance - ded;
if (Net_salary > 50000)
Net_salary = Net_salary + 2000;
System.out.println(" Net Salary="+ Net_salary);
}

```

Q.(21) List and briefly explain the four main phases in the development of a web-based application project.

Ans: Four main phases in a web application project:

1. Requirements Definition Phase: Identify the problem, determine project feasibility, define the scope, list features, set goals, and recognize limitations.
2. Design Phase: Plan the structure and layout of the application, including user interface, database design, and system architecture.
3. Implementation Phase: Write the code, integrate components, and build the application according to the design.
4. Testing Phase: Test the application for errors, bugs, and usability issues; ensure it meets requirements before deployment

Q.(22) (a)What is the use of getter and setter method in Java?

(b) What is OOPs?

Ans: A getter method is used to retrieve the value of a private data member in a class.

- A setter method allows you to assign or modify the value of a private data member in a class.

OR

(a) Getter and setter methods give controlled access to the private data members of the class, wherein getter retrieves the value and setter assigns/modify the value.

(b) OOP stands for Object Oriented Programming language. In an OOP language, a program is a collection of objects that interact with other objects to solve a problem. Each object is an instance of a class.

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

```

public class Main {
    static int New_Method(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) New_Method 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 *****