



# 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-01

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) A \_\_\_\_\_ is the type of sentence which expresses strong feelings and emotions.
- a) Declarative sentences      b) Interrogative sentences  
c) Imperative sentences      d) Exclamatory sentences \*
- (ii) Which of the following is true for Extrinsic motivation ?
- a) It leads to frustration when lacking.  
b) It leads to better decision making.  
c) It focuses on the outcome or reward associated with the activity. \*  
d) It stems from internal satisfaction or enjoyment of an activity.
- (iii) Ravi often feels superior to others, exaggerates his achievements, and constantly seeks admiration. He gets upset when people do not give him special treatment and tends to disregard others' feelings.
- Which of the following personality disorders best describes Ravi's condition?
- a) Narcissistic personality disorder \*      b) Borderline personality disorder  
c) Dependent personality disorder      d) None of the above

- (iv) \_\_\_\_\_ rearranges the data in ascending or descending order.
- Charts
  - Predefined functions
  - Sorting \*
  - Solver
- (v) What Should be a typical approach of an entrepreneur doing a business to solve a problems?
- Ignoring the problem altogether.
  - Coming up with an innovative Solution. \*
  - Accepting problem as unsolvable.
  - Waiting for someone else to solve it.
- (vi) Arti replaced her old smartphone with a new one. What should she do with the old phone?
- Throw it away in the dustbin
  - Sell it for recycling or exchange \*
  - Burn it to get rid of it
  - Keep it unused in a drawer

**Q.(2) Answer any 5 questions out of the given 7 questions**

**(5 x 1 = 5)**

- (i) Rohit wrote:  
`int x = 5; x += 3;` in his Java program. What is the new value of x?  
 Ans: 8
- (ii) Name any two primitive data types supported by Java?  
 Ans: int, char
- (iii) What does this query return?  
`SELECT department, COUNT(*) FROM employees GROUP BY department;`
- List of all employees
  - Count of employees in each department \*
  - Total number of employees
  - Names of departments only
- (iv) Which constraint ensures that a column cannot have NULL values?
- UNIQUE
  - PRIMARY KEY
  - NOT NULL \*
  - FOREIGN KEY
- (v) Which of the following is not mentioned as an alternative payment method for online shopping?
- Net Banking
  - Cash on Delivery
  - Wire Transfer
  - Cheque Payment \*
- (vi) In an online shopping site, which feature is similar to a physical shopping basket used in a store?
- User Account
  - Login Page
  - Shopping Cart \*
  - Registration Form
- (vii) Which keywords are used to handle exceptions in Java?.
- throw, catch
  - try, catch \*
  - exception, catch
  - final, catch

**Q.(3) Answer any 6 questions out of the given 7 questions**

**(6 x 1 = 6)**

- (i) What does NIC stand for?

Ans: National Informatics Centre

- (ii) String myString = "Hello World"; System.out.println(myString.charAt(6)); What will be the output?  
a) W \*      b) o      c) r      d) l

(iii) Consider the table: EMPLOYEE

<u>EmpID</u>	<u>Name</u>	<u>Dept</u>	<u>Salary</u>	<u>City</u>	<u>JoinDate</u>
101	Mehul	HR	50000	Delhi	2019-04-12
102	Smiha	IT	75000	Mumbai	2020-01-23
103	Arsh	Finance	62000	Chennai	2021-05-30
104	Neeru	IT	78000	Delhi	2018-11-15
105	Amit	HR	52000	Bangalore	2022-07-10

Write Query to display name and salary of employees working in the IT department:

Ans: SELECT Name, Salary FROM EMPLOYEE WHERE Dept = 'IT';

- (iv) How can users improve the safety of their passwords when making online payments??  
a) Using personal info like birthdate  
b) Using a mix of letters, numbers, and symbols  
c) Writing the password on paper  
d) 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) Which pricing benefits do consumers enjoy through online reservations?

- a) Consumers can compare prices easily online \*  
b) Prices are hidden  
c) Prices are always the same  
d) Prices are determined by the agent only

(vii) Which of the following is true about the switch statement in Java?

- a) The switch statement can only work with integers.  
b) Each case must end with a break statement, otherwise execution may fall through. \*  
c) The default case is mandatory in every switch statement.  
d) A switch statement cannot be used with characters

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

**(5 x 1 = 5)**

(i) Meena booked a train ticket online late at night and received confirmation immediately without visiting the station. Which benefit of online reservation does this highlight?

- a) Limited access to services  
b) Manual booking only  
c) Convenience and 24/7 availability \*  
d) Delayed confirmation

(ii) What is a constructor in Java?

- a) A method that performs addition  
b) A special type of method used to initialize objects \*

- c) A method used to destroy objects
- d) A method to print values

(iii) Which of the following is a correct way to declare a String variable in Java?

- a) String name = "John"; \*
- b) string name = "John";
- c) Str name = "John";
- d) String name == "John";

(iv) State True or False :

Online shopping provides a limited variety of products compared to traditional stores. (False)

(v) The AVG() function works only with:

- a) Numeric values      \*
- b) Text values
- c) Date values      d) Boolean values

(vi) What is meta-data?

- a) Data about data\*
- b) Data that stores images
- c) Data that cannot be modified
- d) Data that is deleted after use

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

**(5 x 1 = 5)**

(i) Which of the following activities is part of the Requirement Definition Phase in web application development?

- a) Writing the program code for the application
- b) Testing the application for errors
- c) Checking technical and economic feasibility of the project \*
- d) Deploying the application on a server

(ii) In a database table, what is the term used for the number of columns?

- a) Cardinality      b) Degree
- c) Domain      d) Key

(iii) Which command is used to display all the databases in MySQL?

Ans: Show databases;

(iv) Differentiate between System.out.print() and System.out.println() in Java.

Ans: **System.out.print()**

- ☐ Prints the text on the console.
- ☐ Does not move the cursor to the next line.
- ☐ Next output will appear on the same line.

**System.out.println()**

- ☐ Prints the text on the console.
- ☐ Moves the cursor to the next line after printing.
- Next output will appear on a new line.

(v) Which of the following is the correct syntax to define a user-defined method in Java?

- a) void methodName() \*
- b) methodName void()
- c) function methodName()
- d) define methodName()

(vi) The bytecode runs on the \_\_\_\_\_.

Ans: JVM

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

**(5 x 1 = 5)**

(i) What is an array in Java ?

- (a) A collection of elements with different data types
  - (b) A data structure that stores elements of the same data type sequentially. \*
  - (c) A mathematical function used for sorting elements.
  - (d) A loop construct used for iteration.
- (ii) What is the size of a Boolean variable in java ?
- Ans: The size of a `boolean` variable in Java is **1 byte**
- (iii) What is the process of extracting a substring from a larger string called ?
- (a) Slicing \*
  - (b) Splitting
  - (c). Trimming
  - (d) Substringing
- (iv) In Java, when is the condition of a “while” loop evaluated ?
- (a) Before each iteration of the loop \*
  - (b) After each iteration of the loop
  - (c) Only once before the first iteration of the loop
  - (d) Only once after the last iteration of the loop
- (v) In Java, why is it necessary to initialize variables before usage ?
- (a) To ensure that the variable holds a specific value throughout its lifecycle.
  - (b) To prevent memory leaks in the program
  - (c) To allow the compiler to allocate the appropriate amount of memory for the variable\*
  - (d) To optimize the performance of the program by reducing memory consumption
- (vi) What property of a table is avoided with the use of primary key in DBMS?
- (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)** State the importance of active listening in communication.

Ans: Active listening ensures effective communication by allowing the listener to fully understand the speaker's message, respond appropriately, and build trust and rapport.

**Q. (8)** Anita was overwhelmed with her workload and was often distracted by her phone and social media. One day, she decided to switch off her phone while studying and set specific goals for each study session. How does this reflect self-management?

Ans: Anita demonstrated self-management by setting clear goals and eliminating distractions, showing control over her environment and improving focus to achieve better results.

**Q. (9)** 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?

Ans: Ravi is promoting the green skill of sustainable practices by encouraging reuse and reduction of plastic waste in his school.

**Q. (10)** List any two advantages of using Presentation Software.

Ans: 1. Helps organize content visually.

2. Facilitates easy sharing and presentation of information.

**Q. (11)** Anu observed that people in her town had to travel far to buy organic vegetables. She partnered with local farmers and started a weekly organic vegetable delivery service.

State the entrepreneurial functions performed by Anu in the above case.

Ans: Anu performed entrepreneurial functions of identifying a market need and organizing resources to deliver a solution, demonstrating opportunity recognition and resource mobilization.

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

**(3 x 2 = 6)**

**Q.(12)** Give the output of the following code segment-

```
int n = 3;
for (inti = n; i>= 1; i--)
{
    System.out.print(i * i + " ");
}
```

**Ans:** Output: 9 4 1

**Q.(13)** Write the SQL command to Create a employee table

Employee_num Char(4)	HRA int	DA int	Gross decimal	PF Contribution int
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**Ans: CREATE TABLE Employee (**  
    **Employee\_num CHAR(4),**  
    **HRA INT,**  
    **DA INT,**  
    **Gross DECIMAL,**  
    **PF\_Contribution 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) SUM                      (b) MAX                      (c) AVG

**Ans: (a) SUM** – Returns the total of numeric values.

**Example:** SELECT SUM(Salary) FROM Employee;

(b) **MAX** – Returns the highest value in a column.

Example: `SELECT MAX(Marks) FROM Student;`

(c) **AVG** – Returns the average of numeric values.

Example: `SELECT AVG(Price) FROM Product;`

**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 and explain any four precautions that you must take while performing online transaction.

**Ans: Precautions for Online Transactions**

1. Use strong and secure passwords.
2. Avoid using public Wi-Fi for payments.
3. Verify website security (look for HTTPS).
4. Do not share OTP, PIN, or card details with anyone.

**Q.(22)** What are multithreaded programs in Java? What are the two ways by which these threads can be created?

Ans: A multithreaded program is one that can perform multiple tasks concurrently so that there is optimal utilization of the computer's resources. A multithreaded program consists of two or more parts called threads each of which can execute a different task independently at the same time.

In Java, threads can be created in two ways

1. By extending the Thread class
2. By implementing the Runnable interface

**Q.(23)** What is the use of ResultSet data type in Java with database?

Ans: ResultSet is used to store and access the records returned from a database query. It allows reading data row by row from the database.

**Q.(24)** Consider the following tables:

Table: MOVIE

MID	MName	Genre	Budget
M01	Avatar	Sci-Fi	500000
M02	Dangal	Sports	150000
M03	Inception	Thriller	300000

Table: ACTOR

AID	MID	ActorName
A101	M01	Sam Worthington
A102	M02	Aamir Khan
A103	M03	Leonardo DiCaprio

Write SQL queries for the following:

- Find the total number of actors in each movie.
  - Add a new record to MOVIE: (M04, '3 Idiots', 'Comedy', 200000).
  - Display MName, ActorName, and Genre of all actors.
- Show details of movies whose budget is more than 200000.

Ans: a) SELECT MID, COUNT(AID) FROM ACTOR GROUP BY MID;

b) INSERT INTO MOVIE VALUES ('M04', '3 Idiots', 'Comedy', 200000);

c) SELECT M.MName, A.ActorName, M.Genre FROM MOVIE M JOIN ACTOR A ON M.MID = A.MID;

d) SELECT \* FROM MOVIE WHERE Budget > 200000;

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