



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL
PRE-BOARD III EXAMINATION 2024-25
INFORMATION TECHNOLOGY (402)



Class: X
Date: 09.01.2025
Adm No:

Duration: 2 hrs.
Max Marks: 50
Roll No. :

General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of 21 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 (5+16=) 21 questions, a candidate has to answer, (5+10=) 15 questions in the allotted (maximum) time of 2 hours.
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 05 questions.
 - ii. Marks allotted are mentioned against each question/part.
 - iii. There is no negative marking.
 - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions.
 - ii. A candidate has to do 10 questions.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.

MARKING SCHEME

SECTION A: OBJECTIVE TYPE QUESTIONS

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

(i) Anita is leading a team meeting to discuss a new project. While she ensures clarity in her instructions and uses positive body language, some team members face difficulty understanding her due to differences in language and terminology. Which of the following is an example of a barrier to effective communication ?

- (a) Active listening (b) Providing clear instructions
(c) **Language barriers** (d) Using appropriate body language

(ii) Monika gets up at 6:10 am and goes for her hobby classes. Then, she comes back home and finishes her homework before going to school. She does all work by herself. No one tells her to do so. This is called

- (a) Self-awareness (b) **Self-motivation**
(c) Self-regulation (d) Discipline

(iii) In, we change from our normal activities to silence.

- (a) **Meditation** (b) Stress
(c) Worries (d) Survival

- (iv) Anil works in a company that manages sensitive data. To protect the network, he installs a device that monitors and controls incoming and outgoing traffic, blocking access to unwanted sites. A is a network security device that monitors incoming and outgoing network. It restricts access to unwanted sites.
- (a) **Firewall** (b) Anti-virus (c) Block sites (d) None of these
- (v) John notices that the cost of raw materials is lower in a different supplier's location compared to his current supplier. He decides to switch to the new supplier to save money. Which function that the entrepreneur is doing ?
- (a) **Makes decisions** (b) Divide income (c) Takes risk (d) Innovation
- (vi) Riya is studying green skills and learns they help reduce greenhouse gas emissions, preserve biodiversity and conserve habitats. However, they aim to minimize non-renewable resource use. Which of the following is not an environmental benefit of green skills ?
- (a) Reduction in greenhouse gas emissions
 (b) Preservation of biodiversity
 (c) **Increased use of non-renewable resources**
 (d) Conservation of natural habitats

Q.(2) Answer any 5 out of the given 6 questions.

(5 x 1 = 5)

- (i) By drawing any handle you can increase or decrease the of the image diagonally.
- (a) **Corner, Size** (b) Side, Quality (c) Top, Depth (d) Corner, Quality
- (ii) Which of the following is the shortcut key to open the Template dialog box ?
- (a) Ctrl + Alt + N (b) **Ctrl + Shift + N** (c) Ctrl + Alt + T (d) Shift + Alt + T
- (iii) Which shortcut key is used to make the selected text Italic in Writer ?
- (a) **Ctrl + I** (b) Shift + I
 (c) F1 + I (d) None of these
- (iv) Template is a document based on which one can create a new document.
- (a) **Blueprint** (b) Printed (c) Suggested (d) Copied
- (v) Which of the following is not a style type in Writer ?
- (a) Frame style (b) **Image style** (c) List style (d) Character style
- (vi) Prashant is a writer. He has just completed writing his book using Writer software. Now, he wants to add a page which will contain the title of each chapter and its respective page number. Suggest the feature that can be used to do this task.
- (a) Mail Merge (b) Templates (c) Styles (d) **Table of contents**

Q.(3) Answer any 5 out of the given 6 questions.

(5 x 1 = 5)

- (i) Solver option under Tools menu amounts to a more elaborate form of The difference is that the Solver deals with equations with multiple
- (a) Unknown variables, Goal seek (b) Variables, Equation
 (c) **Goal seek, Unknown variables** (d) Subtotal, Goal seek
- (ii) Default name of first scenario created in Sheet1 of Calc is
- (a) Sheet_1_Scenario (b) Sheet_Scenario_1
 (c) **Sheet1_Scenario_1** (d) None of the above

- (iii) Alpana has made four spreadsheets containing marks of 5 subjects of all the students of her class. She has to prepare a sheet that contains the total marks of all the students of her class. Name the option that can be used to perform this task.
 (a) **Subtotal** (b) Average (c) Goalseek (d) Scenario
- (iv) According to OpenOffice Calc which of the following is not a What-if analysis tool ?
 (a) **Conditional formatting** (b) Goal seek (c) Scenarios (d) Solver
- (v) Which of the following tab is used to run Macro ?
 (a) **Tools** (b) Home (c) Insert (d) Review
- (vi) Which of the following feature is used to jump to a different spreadsheet from the current spreadsheet in LibreOffice Calc ?
 (a) Macro (b) **Hyperlink** (c) Connect (d) Copy

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

(5 x 1 = 5)

- (i) A primary key field cannot be null, which also means that it cannot be
 (a) Invalid (b) Positive (c) Alphanumeric (d) **Empty**
- (ii) A tuple in RDBMS is referred to of a table.
 (a) **Record** (b) Field (c) Table (d) Key
- (iii) command is used to retrieve data from a database.
 (a) **SELECT** (b) INSERT (c) UPDATE (d) None of these
- (iv) Which of the following is also known as computer based record keeping system ?
 (a) Data Manipulation System (b) Computer Data System
 (c) Computerised Record Keeping System (d) **DBMS**
- (v) are the ways to produce the data stored in databases and tables in a printed form.
 (a) Forms (b) Queries (c) **Reports** (d) Data
- (vi) If the two departments (HR and IT) access the data simultaneously then only one department will see the updates by the other department. DBMS solves this issue. Thus, DBMS helps to avoid which means if a single database is used by multiples users then it also ensures that the same data is present for all the users.
 (a) Data redundancy (b) **Data inconsistency**
 (c) Data piracy (d) Data modification

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

(5 x 1 = 5)

- (i) Which of the following hazards occur in the IT sector?
 (a) Biological (b) Chemical (c) Physical (d) **Ergonomic**
- (ii) Which actions contributes to a healthy and safe working environment ?
 (a) **Keeping emergency exits clear** (b) Leaving cables loose on the floor
 (c) Ignoring safety warnings (d) Using unapproved software
- (iii) In a situation where a small fire breaks out in the office, what should you use to address the emergency ?
 (a) A Blanket (b) **A Fire extinguisher**
 (c) A Towel (d) Baking Soda
- (iv) Which of the following systems should be placed in an organization for fire safety ?
 (a) Emergency mitigation systems (b) Fire escape routes
 (c) Fire extinguishers and alarms (d) **All of the above**
- (v) Which of the following is a recommended way to manage stress at work ?
 (a) Engage in aggressive conflicts with colleagues
 (b) Work longer hours without breaks
 (c) **Seek conflict resolution strategies with colleagues**

- (d) Avoid hobbies that promote relaxation
- (vi) Which of the following fire extinguishers is suitable for magnesium, potassium and sodium ?
- (a) Dry chemical powder (b) ABC dry powder
- (c) Water CO₂ (d) Both (a) and (b)

SECTION B: SUBJECTIVE TYPE QUESTIONS

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

(3 x 2 = 6)

Q. (6) Imagine you are a high school student working on a group science project. You present your part of the project to your group, but you are not sure if it meets the expectations or aligns with what the group needs. Why is it important for your classmates to give you feedback in this situation ? Explain in detail.

Ans. : It is important for my classmates to give me feedback in this situation because feedback helps me understand if my part of the project aligns with the group's goals and expectations. Since we are working together as a team, it's crucial that every piece of the project fits well with the others. If my work doesn't meet the group's needs or doesn't align with the overall project, it could affect the quality of the final presentation.

Feedback also helps me identify areas where I might have misunderstood the assignment or missed important details. My classmates might notice things I overlooked, such as errors in my research, gaps in my explanation, or areas where more information is needed. This can help me improve my work before it becomes part of the final project.

In the end, feedback from my classmates helps ensure that the project is cohesive, accurate, and of high quality. It allows everyone to contribute their strengths and improve the project as a whole, leading to a better outcome for the group.

Q. (7) Riya, a class X student, feels stressed with her exam preparation, extracurricular activities and family commitments. How can tracking time help her ? Explain.

Ans. : Tracking time can help Riya manage her stress and balance her exam preparation, extracurricular activities, and family commitments more effectively. By tracking her time, she can gain a clear understanding of how much time she is spending on each activity, which allows her to make informed decisions about how to prioritize her tasks.

Here's how tracking time can help Riya:

1. **Better Time Management:** By tracking her time, Riya can see how much time she spends on each activity.
2. **Prioritization:** Once Riya tracks her time, she can better prioritize her tasks.
3. **Reduces Overwhelm:** When Riya feels overwhelmed, tracking time can help her break her tasks into smaller, manageable chunks.
4. **Improves Focus and Productivity:** Time tracking can help Riya stay focused on one task at a time, as she knows that she is working within a set timeframe.
5. **Balance and Flexibility:** By tracking her time, Riya can create a balanced routine that includes enough time for rest, family, and personal activities.

6. **Identifying Patterns:** By reviewing her time tracking over days or weeks, Riya can notice patterns in her habits.

Q. (8) Define multi-processing and multi-user operating system with examples.

Ans. :

Multi-Processing Operating System

Definition: A multi-processing operating system is one that can execute multiple processes simultaneously, utilizing two or more processors (or cores) to perform different tasks at the same time. The primary goal of multi-processing is to improve the performance and efficiency of the system by distributing the workload across multiple processors.

Examples: Linux, Windows Server

Multi-User Operating System

Definition: A multi-user operating system allows multiple users to access and use the system resources (like CPU, memory, and storage) simultaneously, often through different terminals or devices. These systems are designed to support several users, each running their own programs or interacting with the system independently, while sharing hardware resources in a controlled manner.

Examples: Unix, Linux, Windows Server

- **Multi-Processing** focuses on using multiple processors to run processes in parallel, improving efficiency and performance.
- **Multi-User** focuses on enabling multiple users to access and use the system simultaneously, sharing the system's resources without interference.

Q. (9) Priya plans to start her own business and is learning about the key roles an entrepreneur plays. She is particularly interested in understanding how innovation and risk-taking contribute to entrepreneurial success. Describe the following functions of an entrepreneur :

- (a) Innovation (b) Risk-Taking

Ans. :

(a) Innovation

Definition: Innovation refers to the process of creating new ideas, products, services, or processes that add value to a business or solve existing problems in unique ways. For an entrepreneur, innovation is essential as it allows them to differentiate their business from competitors, attract customers, and keep up with changing market demands.

(b) Risk-Taking

Definition: Risk-taking refers to the willingness of an entrepreneur to take on uncertainty and challenges, understanding that there are potential rewards, but also the possibility of failure. Entrepreneurs often have to make decisions and take actions where the outcomes are not guaranteed, but the potential for success can be high.

Q. (10) How do green skills contribute to sustainable development ? Explain in detail.

Ans. : **Green skills** are the knowledge, abilities, values, and attitudes required to live in, develop, and support a sustainable and environmentally-friendly society. They are essential for addressing the challenges posed by environmental degradation, climate change, and the need for more

sustainable practices across industries. Green skills contribute significantly to **sustainable development** by enabling individuals, businesses, and governments to adopt practices that reduce environmental impact while promoting economic growth and social well-being.

1. Promoting Environmental Protection
2. Supporting Green Technology and Innovation
3. Encouraging Sustainable Business Practices
4. Creating Green Jobs
5. Building Awareness and Changing Behavior
6. Contributing to Climate Change Mitigation and Adaptation
7. Ensuring Intergenerational Equity

Answer any 4 out of the given 6 questions on Subject Specific Skills. (4 x 2 = 8)

Q. (11) What is a digital image ? Write steps to insert an image in Apache OpenOffice Writer or LibreOffice Writer

Ans. : A **digital image** is a representation of a visual object, scene, or picture created using a matrix of pixels (small dots of color). These pixels, combined in a grid, form an image. Digital images can be stored in various file formats like JPEG, PNG, GIF, TIFF, BMP, and others. Digital images are commonly used in websites, documents, presentations, and more, and they can be created with digital cameras, scanners, or graphic design software.

Steps to Insert a Digital Image in Apache OpenOffice Writer or LibreOffice Writer:

1. Place the Cursor:
2. Open the "Insert" Menu:
3. Select "Image":
4. Choose "From File...":
5. Locate the Image File:
6. Adjust Image (Optional):
7. Save the Document:

Q. (12) What is the difference between absolute and relative hyperlinks as used in Calc ? Explain with examples.

Ans. :

1. Absolute Hyperlink:

An **absolute hyperlink** specifies the complete path to the target, which includes the full address, including the protocol (e.g., http:// for websites or the full file path for local files). This type of hyperlink is independent of the location of the spreadsheet.

2. Relative Hyperlink:

A **relative hyperlink** references the target location **in relation to the current location** of the document. It does not include the full path, only the part that tells Calc how to find the target relative to the current document's location.

Q. (13) What are the benefits of sharing a spreadsheet ? Explain.

Ans. : Sharing a spreadsheet can provide numerous advantages, particularly in a collaborative work environment. Here's a detailed look at the benefits of sharing spreadsheets:

1. Real-Time Collaboration
2. Improved Communication
3. Better Data Tracking and Version Control
4. Increased Efficiency
5. Access Control and Permissions
6. Cloud Accessibility
7. Improved Data Integrity
8. Streamlined Workflows and Automation
9. Easier Reporting and Data Analysis
10. Cost-Effective

Q. (14) In a database, why is it important to create relationships between the tables ? Explain different types of relationship between the tables.

Ans. :

In a relational database, **relationships between tables** are crucial for several reasons:

1. **Data Integrity:**
2. **Normalization:**
3. **Efficient Data Management:**
4. **Querying and Reporting:**
5. **Data Consistency:**
6. **Fostering Data Relationships:**

There are three primary types of relationships in relational databases:

1. **One-to-One (1:1):**
 - **Definition:** In a **one-to-one** relationship, each record in the first table corresponds to exactly one record in the second table, and vice versa.
 - **Example:**
 - A **Person** table and a **Passport** table. Each person can only have one passport, and each passport can only be issued to one person.
2. **One-to-Many (1:N):**
 - **Definition:** In a **one-to-many** relationship, a record in the first table can relate to multiple records in the second table, but each record in the second table is related to only one record in the first table.
 - **Example:**
 - A **Customer** can place many **Orders**, but each **Order** is placed by only one **Customer**.
3. **Many-to-Many (M:N):**
 - **Definition:** In a **many-to-many** relationship, records in the first table can relate to multiple records in the second table, and records in the second table can relate to multiple records in the first table.
 - **Example:**
 - **Students** can enroll in **Courses**, and each **Course** can have many **Students**.

Q. (15) Ravi is working as a safety officer in a manufacturing in a manufacturing plant. He is learning about workplace safety and wants to understand the terms related to accidents and hazards in the workplace. Define the following with example :

(a) accident in workplace

(b) Hazard

Ans. : (a) Accident in the Workplace:

An accident in the workplace is an unplanned event that results in harm or damage to employees, property, or the environment. It is typically caused by an unexpected or uncontrolled situation that occurs during work activities. Workplace accidents can result in injuries, illnesses, or property damage.

Characteristics of a Workplace Accident:

- **Unexpected:** Workplace accidents are generally sudden events.
- **Uncontrolled:** They occur due to unforeseen circumstances.
- **Harmful:** They can result in injuries to workers, damage to equipment, or loss of material.
- **Immediate Consequences:** The effects of the accident are usually immediate, such as an injury requiring first aid or a machine breakdown.

Example of a Workplace Accident:

- Slip and Fall:
- Machine Malfunction:

(b) Hazard:

A hazard is a potential source of harm, danger, or risk that could cause an accident, injury, illness, or damage. Hazards can exist in various forms, including physical, chemical, biological, ergonomic, or psychosocial. The presence of a hazard does not necessarily mean that an accident will occur, but it increases the likelihood of harm if proper precautions are not taken.

Types of Workplace Hazards:

1. **Physical Hazards:**
 - Example: High levels of noise in a factory that can lead to hearing loss over time.
2. **Chemical Hazards:**
 - Example: Exposure to hazardous chemicals like asbestos or paint fumes in a construction area.
3. **Biological Hazards:**
 - Example: Workers in healthcare or research labs may be exposed to infectious diseases like COVID-19 or HIV.
4. **Ergonomic Hazards:**
 - Example: Office workers suffering from carpal tunnel syndrome due to poorly designed desks or repetitive hand movements.
5. **Psychosocial Hazards:**
 - Example: Workplace stress or bullying causing mental health issues like anxiety or depression.

Example of a Hazard:

- **Wet Floor (Physical Hazard):** A wet floor in a hallway or factory workshop can be a slip and fall hazard. If a worker does not see the wet area and steps on it, they may slip, resulting in injury.
- **Toxic Chemical Exposure (Chemical Hazard):** In a factory where workers handle chemicals, the presence of toxic fumes from a chemical spill or improper storage of chemicals can create a hazard of chemical poisoning or respiratory issues.

Q. (16) What causes eye strain and how to avoid it ?

Ans. : Eye strain, also known as asthenopia, is a condition that occurs when your eyes become tired or fatigued from prolonged use or focus on activities that require intense visual effort. Eye strain can happen when you are reading, working on a computer, or doing other tasks that require concentrated visual attention for long periods.

Several factors contribute to eye strain, including:

1. Prolonged Screen Time:
2. Poor Lighting:
3. Improper Screen Position:
4. Uncorrected Vision Problems:
5. Blinking Less Frequently:
6. Extended Reading or Close-up Work:
7. Fatigue:

How to Avoid Eye Strain?

You can reduce or prevent eye strain by following a few simple practices and making some adjustments to your environment:

1. Follow the 20-20-20 Rule:
2. Adjust Your Screen Position:
3. Use Proper Lighting:
4. Blink More Often:
5. Adjust Your Screen Settings:
6. Use Computer Glasses or Reading Glasses:
7. Keep a Proper Distance from Reading Materials:
8. Maintain Good Posture:
9. Use Eye Drops or Lubricating Solutions:
10. Take Regular Breaks:
11. Get Adequate Sleep:

Answer any 3 out of the given 5 questions on Subject Specific Skills. (3 x 4 = 12)

Q.(17) Ojas had prepared a Table of Contents of the project work he had done in a word processor application.

- (a) Tell him the different steps to update the TOC
- (b) Tell him the different steps to delete the TOC

Ans. : In word processing applications (like Microsoft Word or LibreOffice Writer), a Table of Contents (TOC) can be easily updated when changes are made to the document, such as adding new headings or modifying existing content. Here are the steps to update the TOC in these applications:
Steps to Update the TOC in Microsoft Word:

1. Place Your Cursor in the TOC:
2. Update the TOC:
3. Choose Update Option:
4. Click OK:

Steps to Update the TOC in LibreOffice Writer:

1. Click Inside the TOC:
2. Right-click on the TOC:
3. Choose "Update Index/Table":
4. Confirm Update:

(b) Steps to Delete the TOC in LibreOffice Writer:

1. Click Inside the TOC:
 - Click anywhere inside the Table of Contents to activate it.
2. Right-click on the TOC:
 - Right-click on the TOC to open the context menu.
3. Choose "Delete":
 - From the context menu, choose "Delete Index/Table". This will completely remove the TOC from the document.

Q.(18) Samiksha is working on a advanced spreadsheet project and wants to understand the use of some key tools in data analysis. Describe the use of the following terms with example:

- (i) Goal seek (ii) Scenario (iii) Subtotal (iv) Solver

Ans. :

- (i) **Goal Seek :**

Goal Seek is a powerful tool available in spreadsheet applications like Microsoft Excel, Google Sheets, and other similar tools that allows users to find the input value needed to achieve a desired output or goal. Essentially, Goal Seek works backward from a known result to determine the required input value.

Key Uses of Goal Seek:

- Financial Modeling:
- What-If Analysis:
- Business Planning:

Example:

Imagine you want to know what interest rate (rate) is needed to grow a \$1,000 investment to \$1,500 in 5 years (given the formula for compound interest). Your formula in cell B3 would look something like this:

- $=B1 * (1 + B2) ^ B4$

Where:

- B1 is the present value (\$1000),
- B2 is the interest rate (the value we need to find),
- B4 is the number of periods (5 years).

4. Set Up Goal Seek

- Set cell: B3 (where the future value formula is).
- To value: 1500 (your target future value).
- By changing cell: B2 (the interest rate).

5. Run Goal Seek

- After setting up the parameters, click OK (in Excel) or the equivalent in other tools. Goal Seek will try different values for the interest rate in cell B2 and find the rate that makes the formula in B3 equal to 1500.

6. View Results

- Goal Seek will display the result after running. If Goal Seek finds a solution, it will automatically adjust the value in B2 (the interest rate) to the required value that achieves the target future value of \$1500 in 5 years.
- In this case, it might tell you that the interest rate needs to be around 8.14% for the investment to grow to \$1,500.

- (ii) **Scenario :** The **Scenario Tool** in spreadsheets (such as **LibreOffice Calc** or **Microsoft Excel**) is a powerful feature that allows you to create and manage **different sets of values** for a given model or calculation, and then easily switch between these sets to compare how changes in inputs affect outcomes. Scenarios are useful in **what-if analysis**, helping to forecast different possible outcomes based on various inputs.

Scenarios are commonly used for:

- **Forecasting:**
- **Decision-Making:**
- **Financial Modeling:**
- The Scenario Tool is a valuable feature in spreadsheets that helps users perform what-if analysis and explore different outcomes based on variable changes. It's particularly useful in business forecasting, financial modeling, and any scenario where multiple sets of data need to be tested and compared quickly.

- (iii) **Subtotal :**

The **Subtotal** function in spreadsheets like **Microsoft Excel** and **Google Sheets** is used to calculate summary statistics for data that is organized in a table or range, often within a larger dataset. Subtotal can be helpful for tasks like creating summarized reports, analyzing grouped data, or calculating specific statistics (like sums, averages, counts, etc.) for specific subsets of data.

Key Features of the Subtotal Function

1. **Grouping Data:** Subtotal allows you to calculate summary statistics for grouped data, making it easier to analyze different sections or categories of data independently, without affecting other groups.
2. **Automatic Calculation:** Subtotal dynamically calculates values for each group and updates automatically when data is filtered or sorted.
3. **Multiple Functions:** The **Subtotal** function can calculate a variety of statistical measures, such as **sum, average, count, min, max**, and more.
4. **Filtered Data:** One of the most important features of the Subtotal function is that it can work in conjunction with **filters**. It allows you to calculate summaries for visible data only, ignoring any hidden or filtered-out data. This is particularly useful when you're working with large datasets and want to focus on a subset of the data.

(iv) Solver :

Solver is a powerful tool available in spreadsheet applications like Microsoft Excel (and similar tools such as Google Sheets via add-ons) used for optimization problems. It helps you find the optimal solution to a problem by adjusting the values of variables in a formula, subject to certain constraints. Solver is primarily used for complex decision-making, such as maximizing profit, minimizing costs, or finding the best possible value for a given objective. In simple terms, Solver automates the process of solving problems where you have a goal (objective) that you want to achieve by adjusting one or more variables (decision variables), within certain restrictions (constraints).

Q.(19) Nupur is studying for her database exam and needs to understand the difference between certain concepts. Nupur wants to know the differences between the following. Explain with the help of example.

- (a) Fields and tuples
- (b) Data and Information

Ans. :

(a) Field and tuples :

A **field** is a single unit of data within a record (or row) in a table.

It represents a specific attribute or property of the data being stored. In simple terms, a field is like a column in a database table.

Each field contains only one piece of data per record.

Example: Imagine you have a table of students, and one of the fields could be StudentName. The data stored in this field might be John Doe, Alice Smith, etc.

StudentID	StudentName	Age	Major
1	John Doe	21	CS
2	Alice Smith	22	Biology
3	Bob Brown	20	History

In the table above, the StudentID, StudentName, Age, and Major columns are all fields.

- **Tuple:**
 - A **tuple** represents a single record in a database table. It is a collection of values, one for each field.
 - A tuple corresponds to a row in the table, and each value within the tuple corresponds to a field.

Example: The first row of the above table is a tuple:

Tuple 1: (1, John Doe, 21, CS)

This tuple contains the values 1 for StudentID, John Doe for StudentName, 21 for Age, and CS for Major.

(b) **Data and Information :**

While both **data** and **information** are related, they are distinct concepts in the context of databases and computing.

- **Data:**
 - **Data** refers to raw, unprocessed facts or values that are collected but not yet analyzed or interpreted.
 - It is just the basic input, and by itself, it doesn't convey meaning.
 - Data can be in the form of numbers, text, images, etc.

Example: In the table below, the individual values are **data**:

StudentID	StudentName	Age	Major
1	John Doe	21	CS
2	Alice Smith	22	Biology

The values 1, John Doe, 21, CS are all **data**. They are individual pieces of information that don't yet provide context.

- **Information:**
 - **Information** is processed, organized, or structured data that is meaningful and useful.
 - It is the result of interpreting and analyzing data, and it conveys knowledge or insights.

Example: If you analyze the data, you can derive **information** such as:

"John Doe is 21 years old and majoring in Computer Science (CS)."

Q.(20) Ramesh is working on a database project that involves managing a table of items. He needs to understand the number of fields and records in the table, and write SQL queries to extract specific information for it.

TABLE : ITEMS					
Code	IName	Qty	Price	Company	TCode
1001	DIGITAL PAD 121	120	11000	XENITA	T01
1006	LED SCREEN 40	70	38000	SANTORA	T02
1004	CAR GPS SYSTEM	50	2150	GEOKNOW	T01
1003	DIGITAL CAMERA 12X	160	8000	DIGICLICK	T02
1005	PEN DRIVE 32 GB	600	1200	STOREHOME	T03

- (a) How many fields and records are there in the table ITEMS ?
(b) Write the SQL queries to :
(i) Display the detail of all the items in ascending order of item names (i.e. IName)
(ii) Display IName and Price of all those items, having price greater than 22000.
(iii) Display all the information of the items having price less than 10000.

Ans. :

- (a) Fields : 6, Records : 5
(b)
(i) Select * from ITEMS order by IName asc;
(ii) Select IName, Price from ITEMS where Price>22000;
(iii) Select * from ITEMS where Price<10000;

Q.(21) What points should be included in Fire Prevention Plan in the office ? (at least 4 points)

Ans. :

A Fire Prevention Plan is essential for ensuring the safety of employees and minimizing the risk of fire in the office. Here are four key points that should be included in the plan:

1. Fire Risk Assessment : Identify potential fire hazards in the office environment. Conduct regular inspections to check for sources of ignition (like faulty wiring, overloaded circuits, or malfunctioning equipment) and fire-prone materials (e.g., flammable substances, paper, or chemicals).
2. Employee Training and Awareness : Ensure that all employees are knowledgeable about fire prevention, emergency evacuation, and how to use fire safety equipment. Provide regular training sessions, including how to properly store flammable materials, maintain electrical equipment, and use fire extinguishers.

3. Maintenance of Fire Safety Equipment : Ensure the availability and proper functioning of fire safety equipment. Regularly inspect and maintain fire extinguishers, smoke detectors, fire alarms, emergency exits, and sprinkler systems to ensure they are in good working condition.

4. Clear Evacuation Plan : Provide a clear and efficient route for employees to exit the building in case of a fire. Develop and post evacuation maps that highlight exit routes, assembly points, and emergency contact information. Ensure that employees are aware of these routes and conduct regular fire drills.

..... BEST OF LUCK