Class 8

Answer Key

TrackGPT iPro (5.0)

1. Operating System

Tech Trivia

Section A (Objective)

A. 1. b 2. a 3. b 4. c 5. b

B.
1. Software
2. Operating System
3. Real-Time
4. CUI
5. User Interface

C. 1. b 2. e 3. d 4. a 5. c

D. 1. F 2. T 3. T 4. F 5. T

Answer Arcade

Section B (Subjective)

A.
1. Hardware includes the physical parts of the computer that we can see and touch, like the keyboard, mouse, and monitor.
2. Microsoft Windows.
3. System software refers to software that manages and controls the computer's hardware and software resources. It ensures the computer runs smoothly and supports other programs.
4. DOS (Disk Operating System).

B.
1.
   - **CUI:** Requires text-based commands, less user-friendly, uses minimal resources, examples include DOS and Windows Command Prompt.
   - **GUI:** Uses graphical elements like icons and windows, easier to use, requires more resources, examples include Windows and macOS.
2.
   - **Managing Memory:** The operating system helps manage the computer's memory. It keeps track of which parts of the memory are being used by programs and which parts are free. It also gives memory to files and folders.

- **Security:** The OS has built-in security features to protect your computer from unauthorised access. This means it helps keep your programs and files safe from people who should not be able to access them.

3. Two advantages of using a CUI:
   - It takes input and gives output in text form.
   - It requires less system resources compared to GUIs.
4. - **Multi-user Operating System:** This type of operating systems allow multiple users to access and use a single computer simultaneously. This is achieved by creating separate user accounts for each individual, ensuring that their data and activities remain private.
   - **Real-Time Operating System:** This operating system is designed to do tasks quickly and within a set time. It's often used in machines, instruments, and industrial systems where timing is crucial, like in robotics or automatic controls in factories.

C. 1. A Multi-user Operating System, as it allows separate user accounts for privacy.

2. Graphical User Interface (GUI).

Higher Order Thinking Skills (HOTS)

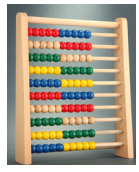
1. The OS acts as a bridge between the user and the computer hardware. The OS controls and manages the computer's hardware and software to ensure they work together smoothly. Without an OS, you wouldn't be able to run applications like web browsers, word processors, or games. The OS provides the platform that these programs need to operate.

2. The choice of an operating system affects hardware performance by managing resources like CPU, memory, and devices efficiently. A well-optimized OS ensures compatibility, stability, and smooth execution of tasks, maximizing hardware utilization.

Code Clues

A. 1. GUI 2. WINDOWS 3. INTERFACE 4. CUI 5. LINUX

B.



1. Leibniz Step Reckoner 2. Abacus 3. Pascaline Adding Machine

Tangible Task

Do it yourself

Digital Drills

Do it yourself

2. Spreadsheet—Functions and Charts

Tech Trivia

Section A (Objective)

A.	1.	b	2.	c	3.	a	4.	a	5.	d
B.	1.	F	2.	F	3.	T	4.	T	5.	T
C.	1.	$	2.	Sorting	3.	Mixed	4.	Functions	5.	COUNT
D.	1.	b	2.	d	3.	a	4.	c		

Answer Arcade

Section B (Subjective)

A.

1. A chart is a graphical representation of data designed to make information easier to understand and analyze.
2. - Enter the formula directly into a cell.
   - Enter the formula in the Formula Bar.
3. Relative, Absolute, and Mixed referencing.
4. Changing the tab colour of a worksheet helps visually organize the workbook and make it easier to navigate.

B.

1. Mixed referencing is a combination of relative and absolute references, where either a row or a column is fixed using the $ symbol.

   Example: $A1 (column A is fixed), A$1 (row 1 is fixed).
2. To sort the data, follow the given steps:

   Step 1 Select the data to be sorted.

   Step 2 Click on the Home tab.

   Step 3 Click on the Sort & Filter command.

   Step 4 Select the desirable option from the drop-down menu.
3. - **Mathematical Functions:** Used for basic mathematical operations like addition, subtraction, multiplication, etc. (e.g., SUM, PRODUCT).
   - **Text Functions:** Used for manipulating text, such as combining, trimming, or changing case. (e.g., CONCATENATE, UPPER, LOWER).

C.

1. Payal can use the UPPER function to convert names to uppercase.
2. a. Line Chart

   b. Pie Chart

Higher Order Thinking Skills (HOTS)

1.

1. - Enter the formula directly into a cell.

- Enter the formula in the Formula Bar

  The Formula Bar is easier for longer formulas as it provides more space for editing and avoids clutter in the cell.

2. Sorting means arranging data in a certain order, like ascending (from smallest to largest) or descending (from largest to smallest) order. It helps you to organise and find information more easily.

Code Clues

Predict the output of the following:

1. Output: 23
2. Output: #VALUE!
3. Output: ORANGE
4. Output: 0
5. Output: ANGE

Digital Drills

Do it yourself

3. Algorithms and Flowcharts

Tech Trivia

Section A (Objective)

A. 1. d 2. a 3. c 4. a

B. 1. F 2. T 3. F 4. T 5. T

C. 1. Terminal 2. Flowchart 3. Algorithms 4. Stop

Answer Arcade

Section B (Subjective)

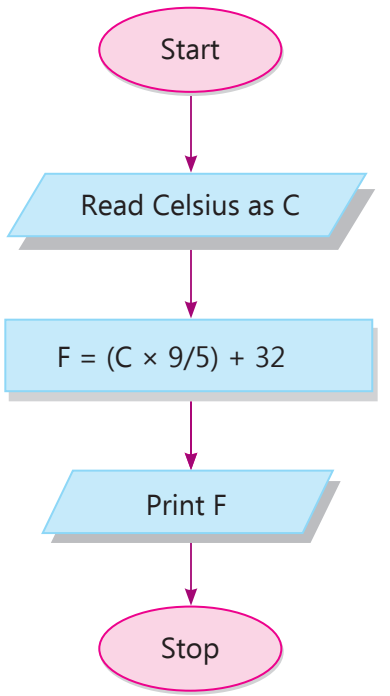
A.

1. The flowchart should generally move from top to bottom, making it easier to follow the process.
2. Flowcharts help in the initial stages of process design by providing a clear visual map of the steps involved. They allow better organization, resource allocation, and help identify potential issues or inefficiencies in the process.
3. A program is a set of instructions written in a language called a programming language.

B. 1. Flowcharts offer the following advantages:

- Flowcharts provide a clear and easy-to-understand visual representation of a process or algorithm.
- By visualising the steps involved in a process, flowcharts help identify potential issues, inefficiencies, or bottlenecks.
- Flowcharts are useful for documenting processes, algorithms, or systems.

2.



3. Algorithms are commonly used for:

- Data Processing: Algorithms are indeed used for handling and organising data, including tasks like sorting, filtering, and aggregating.
- Logical and Mathematical Operations: Algorithms perform various calculations and logical operations, such as arithmetic, algebraic computations, and logical decisions.
- Data Manipulation: Algorithms are used to alter or manage data, including operations like updating, merging, and transforming data formats.

C. 1. Algorithm

2. Before starting the flowchart, Arya should first plan the steps involved in making a sandwich. She should think about the necessary ingredients, actions (e.g., spreading butter, adding filling), and the order in which these steps should occur. Once she has a clear understanding of the process, she can begin creating the flowchart, ensuring that each step is accurately represented.

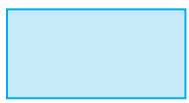
Higher Order Thinking Skills (HOTS)

1.
   - Importance: A specific set of steps ensures the algorithm works logically and produces the correct result.
   - Consequence: If steps are in the wrong order, the algorithm may fail or produce incorrect results.
2.
   - Essential for Clarity: Standardized symbols make flowcharts universally understandable.
   - Effective Communication: They ensure consistency and ease of interpretation, especially in team settings.

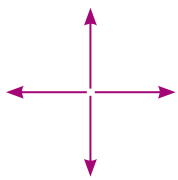
Code Clues

Suggest and draw the symbol for the following:

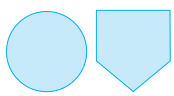
1. Process Symbol



2. Flow Line (Arrow)



3. Connector (Circle)



4. Start/Stop (Oval)

Tangible Task

Do it yourself

Digital Drills

Do it yourself

4. Program Coding

Tech Trivia

Section A (Objective)

A. 1. c 2. b 3. d 4. a

5. b, c, and d are correct ways to add comments in Java.

B. 1. T 2. T 3. F 4. T 5. F

C. 1. BlueJ 2. Object bench 3. Keywords

4. Variables 5. Operators

D. 1. b 2. c 3. d 4. a

Answer Arcade

Section B (Subjective)

A. 1. Applets are small Internet-based applications that are embedded within a web page and run inside a web browser.

2. Relational operators compare two values or quantities and return a result that is either "true" or "false". They are also called comparison operators.

3. Comments are essential because they provide additional information about the code, making it easier for others, as well as yourself, to understand and maintain.

4. Three categories of operators are: Arithmetic Operators, Relational Operators, and Logical Operators.

B. 1. Features of Java are as follows:

- **Easy to Learn:** Java is simple and easy to understand, which is great for beginners.
- **Object-Based:** Java uses objects to help organise and run programs. These objects hold data and can do things with that data.
- **Platform Independent:** Java programs can run on any type of computer without needing to be changed. This means you can write a program once and use it anywhere.

2. a. Literals: A literal represents a fixed value in Java. The different types of literals are: Character Literal, Integer Literal, Floating-Point Literal, and Boolean Literal.

b. Keyword: In Java, a keyword is a reserved word with a specific meaning that cannot be used as an identifier, and is used to perform specific operations in the language syntax.

3. Unary operators are special operators that use only one operand or value to perform an operation. Examples of unary operators include the increment (++) and decrement (--) operators, which increase or decrease a value by one, respectively.

4. Features of OOP are as follows:

- Encapsulation is the concept of bundling the data (attributes) and the methods (functions) that operate on the data into a single unit, called a class.

- Abstraction is the process of simplifying complex reality by modelling classes appropriate to the problem.
- Inheritance is a mechanism where a new class (called a subclass or derived class) is created from an existing class (called a superclass or base class).

C.

1. Welcome to the World of

   JAVA
2. Sum: 12

   Difference: 4

   Product: 32

   Quotient: 2

   Remainder: 0
3. Full Name: Eklavya Gupta
4. 18

   17
5. Before swapping: a = 50, b = 30

   After swapping: a = 30, b = 50
6. Value of c = 36
7. false

   false

D.

1. The class name double is incorrect because it is a keyword. It should be changed to a valid class name, such as MyClass, instead of using a reserved keyword.
2. This program assigns a floating-point value to an integer variable, which is incorrect. You should change double x to store decimal values properly.
3. The method line public Static Void Main[String args()] is incorrect because, in Java, the main method should be public static void main(String args()).
4. The comment \\ it will find cube of a number is incorrect because \\ is not a valid comment syntax in Java. It should be written as // It will find the cube of a number.

E.

1. You can do this by passing arguments into the main() method. You can accept a single value or multiple values by separating them with commas. For example:

```
public class GetNameAndAge {
    public static void main(String name, int age) {
        System.out.println("Hello, " + name + "! You are " + age
        + " years old.");
    }}
```

2. Simi can write a Java program to convert temperature from Celsius to Fahrenheit by following a simple formula:

   Fahrenheit=(Celsius×9/5)+32

```
public class TemperatureConverter {
```

```
    public static void main(double celsius) {
        double fahrenheit = (celsius * 9 / 5) + 32;
        System.out.println("The Temperature is " + fahrenheit);
    }
}
```

Higher Order Thinking Skills (HOTS)

1. To create a project, follow the given steps:

   Step 1: Click on the **Project** menu.

   Step 2: Select the **New Project** option.

   Step 3: Type a name for your project in the **Name** text box.

   Step 4: Click on the **OK** button

   Step 5: Click on the **Edit** menu.

   Step 6: Select the **New Class** option.

   Step 7: Type a name for your class in the **Class Name** text box.

   Step 8: Select the **Class** radio button as a class type.

   Step 9: Click on the **OK** button.

   Step 10: Double-click on the **HelloWorld** class icon to open the code editor.

   Step 11: Change the existing code.

   To compile and run a program, follow the given steps:

   Step 1: Click on the **Compile** button.

   Step 2: Right-click on the **HelloWorld** class icon.

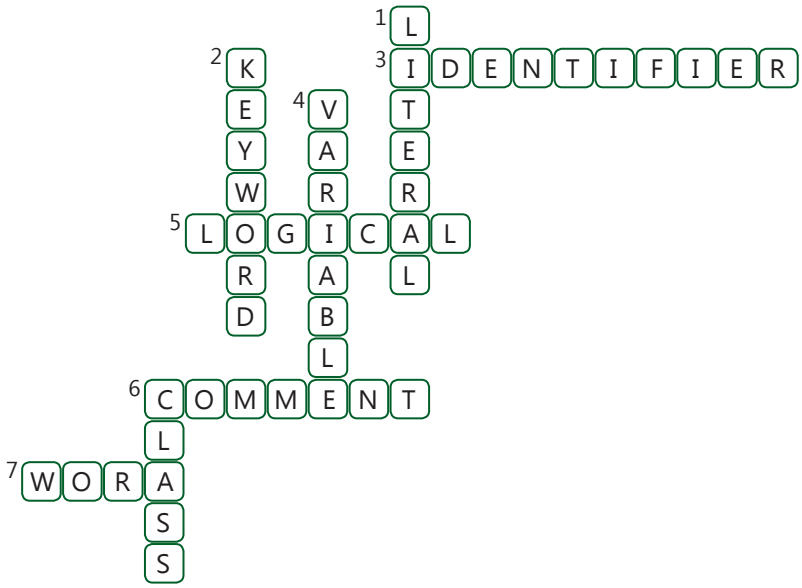
   Step 3: Select the **void main (String[] args)** option.

   Step 4: Click on the **OK** button.

2. Using argument values in a Java program is important because Java allows us to obtain values from the user at runtime by passing arguments into the main() method. This makes the program more flexible, as it can accept one or multiple values (separated by commas) without needing to modify the code.

Code Clues

Solve the crossword using the clues.



Digital Drills

Do it yourself

Worksheet 1

(Based on chapters 1 to 4)

A.
1. Windows, Linux
2. Addition, Subtraction
3. Process Symbol (Rectangle), Decision Symbol (Diamond)
4. abstract, class

B.
1. Character User Interface
2. Graphical User Interface
3. Write Once, Run Anywhere
4. Integrated Development Environments

C.
1. An object is an instance of a class that represents a real-world entity, such as a telephone, mouse, or bag.
2. An algorithm is a sequence of steps designed to solve a problem or complete a task.

D.
1. User Interface (UI)
2. Single-user Operating System
3. Range
4. SQRT
5. LEFT
6. Flowchart
7. Identifier
8. Keyword

E.
1. Start/Stop
2. Decision
3. Process
4. Input/Output

Test Sheet 1

(Based on chapters 1 to 4)

Section A

A.

1. b	2. a	3. c	4. a	5. d
6. d	7. a	8. a		

B.

1. Real-Time	2. Mixed	3. functions	4. Terminal	5. BlueJ
6. Object Bench				

C.

1. F	2. F	3. F	4. F	5. T

Section B

A.
1. Hardware includes the physical parts of the computer that we can see and touch, like the keyboard, mouse, and monitor.
2. Relative, Absolute, and Mixed referencing
3. Flowcharts help in the initial stages of process design by providing a clear visual map of the steps involved. They allow better organization, resource allocation, and help identify potential issues or inefficiencies in the process.
4. These are small applications embedded within a web page and run inside a web browser.
5. Comments are essential for adding extra information about the code, making it easier for others (and yourself) to understand and maintain.

B. 1.

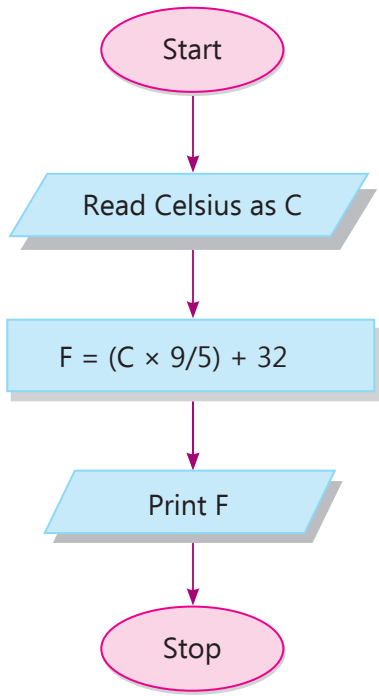
- Managing Memory: The operating system helps manage the computer's memory. It keeps track of which parts of the memory are being used by programs and which parts are free. It also gives memory to files and folders.

- Security: The OS has built-in security features to protect your computer from unauthorised access. This means it helps keep your programs and files safe from people who should not be able to access them.

2. Mixed referencing is a combination of relative and absolute references, where either a row or a column is fixed using the $ symbol.

   Example: $A1 (column A is fixed), A$1 (row 1 is fixed).

3.



4. a. A literal represents a fixed value in Java. There are different types of literals.
   b. Keywords are special reserved words that have a predefined meaning and cannot serve as identifiers.

5. Some key features of OOPs are as follows:
   - **Encapsulation:** Encapsulation is the concept of bundling the data (attributes) and the methods (functions) that operate on the data into a single unit, called a class.
   - **Abstraction:** Abstraction is the process of simplifying complex reality by modelling classes appropriate to the problem.
   - **Inheritance:** Inheritance is a mechanism where a new class (called a subclass or derived class) is created from an existing class (called a superclass or base class).
   - **Polymorphism:** Polymorphism allows objects of different classes to be treated as objects of a common superclass.

5. Conditional, Looping and Jump Statements in Java

Tech Trivia

Section A (Objective)

A.	1.	b	2.	b	3.	c	4.	b	5.	c
B.	1.	F	2.	F	3.	T	4.	T	5.	T
C.	1.	Control	2.	Semantic	3.	For	4.	Error	5.	Continue

Answer Arcade

Section B (Subjective)

A.

1. Control flow statements allow us to alter the sequence of statement execution. They also enable us to repeat certain statements multiple times.
2. Three types of error in Java, which are as follows: Syntax errors, Runtime Errors, and Logical Errors.
3. Three types of control flow statements, which are as follows:

   Conditional Statements, Looping Statements, and Jump Statements
4. The syntax of the for loop is as follows:

```
for(initialisation; conditional expression; increment/decrement)
{
[statements]
}
```

B.

1. Syntax errors occur when the rules of Java syntax are not followed.

   They are also known as compile-time errors.

   For example:

```
public class SyntaxError{
public static void main(String args[])
{
int a = 100;
int b = 200;
int c = a * b
System.out.println(c);
} }
```

   In the preceding program, the statement "int c = a * b" produces an error because we have not added the semicolon at the end of the line.
2. Logical errors are most difficult to find because the compiler can't detect them. To find

logical errors, you have to carefully check your code.

For example:

```
public class LogicalError{
public static void main(String args[])
{
int a = 100;
int b = 200;
int c = a + b;
System.out.println("The result of division is: "+c);
}
}
```

3. Switch statement is used when using a long if...else ladder can be tiring and make your code more complicated. Java offers a simpler option called the switch statement. This statement replaces the if...else ladder and allows you to compare a variable to a list of values.
4. Java provides two jump statements:
   - **The break statement:** The break statement in Java is used to stop a loop or switch statement before it finishes all its steps. When the break statement is used, it immediately stops the loop or switch and moves on to the next part of the program.
   - **The continue statement:** The continue statement skips the rest of the current loop cycle and goes directly to the next iteration, without running the code that comes after it in that cycle.

C. 1. 10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40

2. Fibonacci Series up to 10 terms:
   0 1 1 2 3 5 8 13 21 34
3. 5 × 1 = 5
   5 × 2 = 10
   5 × 3 = 15
   5 × 4 = 20
   5 × 5 = 25
   5 × 6 = 30
   5 × 7 = 35
   5 × 8 = 40
   5 × 9 = 45
   5 × 10 = 50
4. Sum of numbers from 1 to 10 is: 55

D.

1. The loop condition `i <= 1` is incorrect; it should be `i >= 1`.
2. The statement `factorial =* i;` is incorrect. The correct syntax is `factorial *= i;`.
3. The statement `int result = a / b;` is incorrect because division by zero is not allowed.
4. The statement `System.out.println("The product is ", c);` is incorrect due to the use of curly quotes instead of straight quotes, the missing + operator for string concatenation, and an extra closing brace at the end of the code.

E.

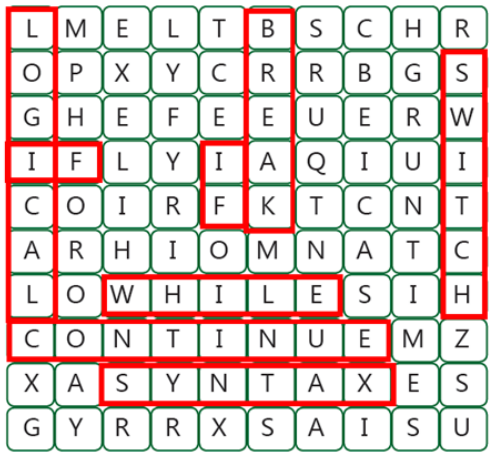
1. To print the name of the month instead of a number, Deepak should use a switch statement.
2. To determine if a student passes or fails based on a percentage, Ritik should use an if-else statement.

Higher Order Thinking Skills (HOTS)

1. The switch statement is more efficient than multiple if-else statements because it uses a jump table to directly access the matching case, making it faster and more concise. This approach improves readability and reduces maintenance, as you can easily add or remove cases without modifying surrounding code.
2. Yes, an infinite loop can be useful in Java programming for applications that require continuous execution, such as server listening loops, game loops, or embedded systems monitoring loops.

Code Clues

Find eight terms related to Java statements and errors.



Digital Drills

Do it yourself

6. App Development

Tech Trivia

Section A (Objective)

A. 1. a 2. b 3. c 4. d 5. a

B. 1. T 2. F 3. F 4. F 5. T

C. 1. Web browser 2. Gmail 3. Component blocks
4. Emulator 5. E-commerce

Answer Arcade

Section B (Subjective)

A. 1. Google Play Store and Apple App Store.
2. The commonly used Android Emulators are Android Studio, LD Player.
3. Examples of e-commerce apps are Amazon, Paytm and Blinkit.
4. Yes, App Inventor is a free app development tool.

5. An app is a type of software that is designed specifically for portable smart devices like tablets and smartphones.

B.

1. While developing an app, we should keep some points in mind:
   - The idea of developing an app should be unique.
   - The app we are going to develop should contain all the relevant features.
   - The app should be user friendly.
2. App Inventor has two basic views:

   Design View: This view contains all the components required to design an application.

   Block Editor View: This view is the place where we combine blocks to execute an application.
3. Web apps are different from websites. The major difference is that a web app can be a small part of a website that provides a particular functionality.
4. Native apps are platform-dependent which means that these apps are primarily developed for a specific platform. The address book, gallery, microphone, and camera are a few examples of native applications.

C.

1. An app is a type of software that is designed specifically for portable smart devices like tablets and smartphones. It facilitates the user's more efficient completion of both personal and professional responsibilities.
2. I would recommend a hybrid app because it allows the company to develop one app that works on both iOS and Android, saving time and costs. It combines the benefits of native and web apps, offering cross-platform compatibility and easy distribution through app stores.

Higher Order Thinking Skills (HOTS)

1.
   - **Facebook:** Set profile visibility to "Friends" or "Only Me," enable two-factor authentication, and manage app permissions.
   - **WhatsApp:** Control who can see your profile photo, status, and last seen, enable two-step verification, and use end-to-end encryption.
2.
   - **Communication:** Apps like WhatsApp make instant messaging and video calls easy.
   - **Shopping:** E-commerce apps like Amazon allow shopping anytime, anywhere.
   - **Learning:** Educational apps like Khan Academy provide flexible learning opportunities.

Code Clues

Identify the following apps:

1. Khan Academy
2. LinkedIn
3. Dropbox
4. Skype
5. Evernote

Digital Drills

Do it yourself

7. Computer Networking

Tech Trivia

Section A (Objective)

A. 1. b 2. b 3. d 4. d 5. d

B. 1. F 2. T 3. F 4. T 5. F

C. 1. Client 2. Star 3. Bandwidth 4. P2P 5. Bluetooth

D. 1. Internet Service Provider 2. Uniform Resource Locator
3. Domain Name System 4. Network Interface Card
5. World Wide Web

Answer Arcade

Section B (Subjective)

A. 1. Bus, Ring, Star, Tree, Mesh.

2. PAN is a small-scale network designed for the personal use of an individual or a small group of users within a very limited area, typically within a range of a few meters (20 to 30 feet).

3. Examples of ISPs are Airtel, Vodafone Idea (VI).

4. Hypertext Transfer Protocol (HTTP).

B. 1. Hub broadcasts data to all connected devices, which can cause network congestion. Switch, on the other hand, directs data to specific devices, improving efficiency and reducing unnecessary traffic.

2. Domain name is easier to remember because it uses a user-friendly address (like www.google.com), whereas IP addresses are numeric and harder to recall.

3. Tree Topology connects nodes in a network in a tree-like structure. It starts with a root node and branches out to other nodes arranged in star patterns. This setup makes it easy to expand the network and manage it. If one branch has a problem, it only affects that branch, but if the root node, the whole network can be affected.

4. Client-server architecture is a network design with two main roles: clients and servers. Clients request servers for resources or services, such as a Web page. These resources are provided and managed by servers. For example, a web browser (client) asks a web server for a Web page, and the server delivers it.

C. 1. MAN

2. Bluetooth or Wi-Fi can be used for wireless data transfer between devices.

Higher Order Thinking Skills (HOTS)

1. A router is critical because it connects different networks (such as a local area network or LAN to the internet) and manages data traffic between them. It determines the best path for data to travel, ensuring that information is routed efficiently across networks.
   - A router connects different networks and routes data between them, often using IP addresses to determine the best path.
   - A switch, on the other hand, operates within a single network and directs data packets to specific devices on that network using MAC addresses.
2. - Communication would revert to slower methods like phone calls and physical mail.
   - Access to information would be limited without the internet.
   - Work and collaboration would be harder, especially with remote work and file sharing.
   - Entertainment and e-commerce would be limited to physical stores and traditional media.

Code Clues

Who am I?

1. File Transfer Protocol (FTP)
2. Tree Topology
3. Modem
4. Hyperlink
5. Database Server
6. Networking Cables

Digital Drills

Do it yourself

8. Cloud Computing

Tech Trivia

Section A (Objective)

A.	1.	c	2.	a	3.	c	4.	a	5.	d
B.	1.	T	2.	F	3.	T	4.	T	5.	T

C. 1. Cloud 2. Cloud Computing 3. Edit 4. Cloud Services
5. Reliable

Answer Arcade

Section B (Subjective)

A. 1. iCloud was introduced on October 12, 2011 by Apple Inc.
2. iCloud offers family sharing and automatic backups for documents and photos.
3. Sharing files enables collaboration, allowing multiple users to access, edit, and update files in real time, making teamwork more efficient.
4. When working offline, OneDrive automatically updates the cloud files when you go online again, ensuring your changes are synced.

B. 1.
- Internet Dependency: Cloud services require an Internet connection to function.
- Storage Limits: Some services may have restrictions on storage space and speed.
- Technical Support: Users rely on the provider for fixing technical issues.

2. To create a document using OneDrive, follow the given steps:

Step 1: Click on the Add new button.

Step 2: Select the type of file that you want to create.

3.
- **Self-Service:** Users can set up and manage cloud resources independently, without needing external help.
- **Resource Pooling:** Cloud services efficiently share computing resources among multiple users, optimising overall use.
- **Manage Access:** Cloud services provide detailed control over which users can access specific resources and data.
- **Service Monitoring:** Constant monitoring guarantees the reliability of cloud services and the prompt detection of performance issues.

C. 1. His colleague can securely share the data using cloud storage services like OneDrive, Google Drive, or Dropbox, ensuring easy access from any location.
2. Yes, OneDrive allows Tanish to set specific permissions, giving team members the ability to view the files without editing them by choosing the appropriate access level when sharing the files.

Higher Order Thinking Skills (HOTS)

1. Cloud storage is preferred because it offers easy access from anywhere, scalable storage, cost-effectiveness, and strong security with automatic backups.
2. Cloud services enable real-time collaboration, allow access control for file permissions, provide cross-platform accessibility, and offer centralized storage for easy file sharing and access.

Code Clues

Find seven terms related to cloud computing and OneDrive from the following grid:

T	K	O	C	G	P	H	I	S	L	L
O	N	E	D	R	I	V	E	K	T	T
N	H	I	U	I	F	D	R	Y	I	I
D	D	C	U	P	L	O	A	D	T	T
I	R	L	R	B	R	E	A	R	E	E
G	O	O	G	L	E	D	R	I	V	E
I	P	U	I	P	L	H	E	V	A	A
O	B	D	S	W	I	T	C	E	T	T
N	O	G	U	N	I	X	G	I	I	I
A	X	N	X	R	E	S	G	O	O	O
Z	I	P	C	L	O	U	D	N	N	N

Digital Drills

Do it yourself

Worksheet 2

(Based on chapters 5 to 8)

A.

1. The if statement is the simplest form of a conditional statement in Java. If the condition in the if statement is true, the statements inside its body will be executed.
2. Android is a mobile operating system created by Google. It is the most widely used operating system for mobile devices.

B.

1. continue
2. error
3. app
4. iOS
5. Bandwidth
6. Website
7. demodulation
8. OneDrive

C.

1. Syntax Error, Runtime Error
2. Khan Academy, Vedantu
3. Local Area Network (LAN), Metropolitan Area Network (MAN)
4. HTTP (Hypertext Transfer Protocol), FTP (File Transfer Protocol)

D.

1. File Transfer Protocol
2. Massachusetts Institute of Technology
3. Network Interface Card
4. iPhone Operating System

E. The error is in the System.out.println statement; it should be:

System.out.println("The value of i is: " + i);

Test Sheet 1

(Based on chapters 5 to 8)

Section A

A.

1. b	2. b	3. b	4. c	
5. b	6. d	7. a	8. d	

B. 1. control 2. Gmail 3. Bandwidth 4. Cloud 5. Cloud Computing

C. 1. F 2. T 3. T 4. F 5. F

Section B

A.

1. Control flow statements are required to manage the execution flow of a program, allowing decisions (if-else), repetition (loops), and branching based on conditions, enabling dynamic behaviour.
2. Syntax Error, Runtime Error, Logical Error
3. The commonly used Android Emulators are Android Studio, LD Player.
4. Examples of e-commerce apps are Amazon, Paytm and Blinkit.
5. Examples of ISPs are Airtel, Vodafone Idea (VI).
6. Hypertext Transfer Protocol (HTTP).
7. Sharing files enables collaboration, allowing multiple users to access, edit, and update files in real time, making teamwork more efficient.
8. iCloud was introduced on October 12, 2011 by Apple Inc.

B.

1. Syntax errors occur when the rules of Java syntax are not followed.

   Example:

   ```
   int x = 10
   System.out.println(x);
   ```

   In the above code, a syntax error occurs because a semicolon is missing at the end of the statement int x = 10;. The correct syntax would be:

   ```
   int x = 10;
   System.out.println(x);
   ```

2. Logical errors are often the most difficult to find because they do not cause the program to crash or throw exceptions. The program may run without errors, but the output may be incorrect. These errors occur when the logic or algorithm is flawed.
3. App Inventor has two basic views:

   Design View: This view contains all the components required to design an application.

   Block Editor View: This view is the place where we combine blocks to execute an application.
4. Web apps are different from websites. The major difference is that a web app can be a small part of a website that provides a particular functionality.
5. Hub broadcasts data to all connected devices, which can cause network congestion. Switch, on the other hand, directs data to specific devices, improving efficiency and reducing unnecessary traffic.
6. Tree Topology connects nodes in a network in a tree-like structure. It starts with a root node and branches out to other nodes arranged in star patterns. This setup makes it easy to expand the network and manage it. If one branch has a problem, it only affects that branch, but if the root node, the whole network can be affected.
7. - Internet Dependency: Cloud services require an Internet connection to function.
   - Storage Limits: Some services may have restrictions on storage space and speed.
   - Technical Support: Users rely on the provider for fixing technical issues.
8. - Self-Service: Users can set up and manage cloud resources independently, without needing external help.
   - Resource Pooling: Cloud services efficiently share computing resources among multiple users, optimising overall use.
   - Manage Access: Cloud services provide detailed control over which users can access specific resources and data.
   - Service Monitoring: Constant monitoring guarantees the reliability of cloud services and the prompt detection of performance issues.