Month	Chapter	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
April 18	Computer Network	**Computer Network** Understanding the importance of computer communication and identifying the components that facilitate it. **Types of Network** Understanding the role of computer network in sharing resources. Differentiating between the types of network: LAN, WAN, MAN and PAN. **Network Hardware** Identifying the devices used in a Network: computer, NIC, Connector, Cables, Resource. **Communication Channels** Identifying the media involved in physical or wireless transmission of data. **Network Architecture** Understanding the organization of computers through Network Architecture and its types: Peer-to-Peer Network and Client/Server Network. **Network Topology** Analysing layout structure of connected computers through network topology and its kinds: Bus, Star and Ring.	● Begin the chapter by discussing the need of communication in computers and the components required to establish a successful computer communication: Sender, Communication Channel or Transmission Media, Receiver and Protocol. ● Introduce them with Computer Network and discuss the need for a network as well as the role played by network user, server and workstations. Help the students distinguish between the different types of Network: LAN (Local Area Network), WAN (Wide Area Network), MAN (Metropolitan Area Network) and PAN (Personal Area Network). ● Discuss about the physical devices required for a network to function: Computer, Network Interface Card (NIC),	Will be able to: ● Understand the concept of Networking and how computers are being connected with each other. ● Differentiate between different types of Network. ● Understand Networking of computers and how computers are connected all over the world through the inter	Draw the block diagram of topologies	Build **3D models** of network topologies (Bus, Star, Ring) using materials like string, cardboard, and connectors.

		Protocol Learning about different protocols and the operations they perform, such as HTTP, FTP, TCP/IP, POP3, IMAP, and SMTP.	Connector, Cables, and Resource. ● Identifying the role played by different physical transmission media (twisted- pair cable, coaxial cable, fibre-optic cable) and wireless transmission media (Infrared, Broadcast Radio, Cellular Radio, Wi-Fi, Microwave, Communication Satellite). ● Describe the two major types of Network Architecture: Peer-to-peer Network and Client/server Network. ● Discuss network topology and its types: bus, star and ring. ● Brief them about the different Protocols meant for different operations on the Internet, such as HTTP, FTP, TCP/IP, POP3, IMAP, SMTP			
	Access creating a database	**database** Understand database as a collection of data organized in manner that allows easy access, retrieval, and use of that data **Microsoft Access** Understand Microsoft Access as a Database Management program and knowing its different components. Learn the steps to start Access 2016, create and open a database Make the students proficient in Access to create a blank database and create a new table using datasheet view or design view. Familiarize yourself with the various data types in Access 2016 Practice the steps to set a primary key, set field properties, save and close the table. Understand the steps to add records to a table	● Begin the chapter by Introducing students with database and its purpose. ● Tell them about the database software MS-Access and how it is helpful in creating, managing and processing data in the form of multiple tables. ● Make them familiar with its different components and their use. ● Demonstrate the steps to open MS-Access window and create a database using template. ● Brief the students about the project they are going to create during practical sessions. ● Demonstrate the steps to create a blank database and create a new table using datasheet	● Will be able to create the table structure and will add records and complete their project in the given period of time.	Dance Class Database	Mathematics Database

			view/design view. While discussing design view, introduce them with the available data types in Access 2016. ● Make them familiar with primary key and its use. Also demonstrate how to set a particular field as a primary key.			
May 11	**Python looping**	**Loop** Understand the concept of loop in programming. Identify the types and uses of loops Understand the use of Break and Continue statement **Tkinter** Learn about Tkinter, its widgets and layout management	● Briefly explain about loop and need of loop in programming. ● Explain types of loop: counter loop, conditional loop and their types. ● Briefly explain break and continue statement. ● Explain about Tkinter, importing Tkinter library. ● Demonstrate how to create Tkinter window and explain Tkinter widgets like label, entry, button, radiobutton, checkbutton. ● Explain Tkinter layout management: pack, grid, place. ● Demonstrate small program using loop in Python	will be able to explain types of loop and can also explain break and continue statement	Programming	**Subject Integration Mathematics** Programming
July 21	**Access table and forms**	**Working with Database Table** Familiarizing oneself with the basic working of a database table in order to select data, find and replace text, change table view, edit fields and sort records. **Filtering Data** Understanding how to filter data in a table: by selection or by form, in order To display only desired records. **Creating relations between tables** Learning how to create/delete Relationships between tables through Relationships window. **Creating forms**	Demonstrate the basic working with tables by selecting data in a table, using Find & Replace option, changing Table View, editing Fields and sorting records. Make them introduce the use of the Filter option and demonstrate the process to Filter data in various ways: by selection or by form. Making students understand what is a Relational database.	Will be able: ● To open the file created in the previous class and work on the table created. They will also create a Form for the table they created. ● They will be able to use a shortcut menu for making quick changes and will be	Create table and forms	**Graphical Representation Using Forms (Math)** **forms** that visualize **mathematical graphs** such as **line graphs, bar**

		Understanding how to create several types of forms in a table.	Demonstrate the steps to create or delete a relationship between tables. Demonstrate the process of creating Forms in different ways, changing the view of forms, changing field formatting and applying the theme of a form	able to complete their task efficiently.		**graphs, and scatter plots** in Access.
August 14	**Query and report**	**The Query** Understanding Query and its different types: simple, unmatched, duplicate and cross tab. **Creating a Query** Learning the steps for Creating, Running and Saving a query. **Understanding Query Options** Understanding Query options Using Criteria, Wildcards, Compound Criteria and Compound Operator in a query. **Sorting Data in Query** Learning the steps undertaken to Sort, Delete and Hide a field in a query. **Creating a Report** Understanding how to create a Report - using Report Tool or Blank Report.	Begin the chapter by introducing the concept of Query and its different Types: simple, unmatched, duplicate and cross tab. Demonstrate the systematic processes to create, run and save a Query. Tell students about the different Query options. Describe and demonstrate how criteria allow you to find specific records in a database by showing the use of text data, wildcards, compound criteria and Compound operators in Query. Show them the procedure to sort data in Query, delete and hide fields in a Query. Demonstrate the different ways of creating Report - Creating simple report using Report tool and Creating a Blank Report.	Will be able to understand : ● The concept of Query and Report in Access and will complete the assigned activity.	Create a database 'Company' and save it in 'Lab Activity' folder. Create a table 'Employee' in design view and create following fields:	**Mathematics** Create a **worksheet** that involves **solving real-world mathematical problems** using **queries** in Access. Students will formulate **queries** to analyze datasets that include **mathematical statistics** like **averages, totals, percentages**, etc.
September 7	E-commerce	**E-Commerce** Understanding e-commerce as a financial business transaction that occurs over an electronic network. **E-Commerce Business Models** Learning about the advantages of e-commerce for buyers and sellers. Identifying the four basic models of e-commerce: business-to-consumer,	Begin the chapter by asking the students if they have any experience with online shopping. Define E-commerce and its advantages for buyers and sellers. Explain the four basic models of E-Commerce with examples: business-to-consumer, consumer-to-consumer,	Will create and post their blogs to share their views online. They will be able to avail various E-commerce	Show the process of e-retailing	**Subject Integration Science** With the help of the Internet, search information on 'Conservation of Plants and Animals'. Save the information, create a blog and post

				Will be able:	Create a admission form	it.

		consumer-to-consumer, business-to-business and business-to-employee. **E-Retailing** Understanding e retailing and the process of making an online purchase carefully. **Security Concern** Creating awareness to make online shopping a secure and reliable process. **Top E-Commerce Website** Familiarizing oneself with top e-commerce websites such as Amazon, Flipkart, Snap deal, Alibaba, etc. **Blogging** Learning the concept of Blogging and its uses.	business-to-business and business-to-employee. Describe E Retailing and explain the complete process of an E-Retail transaction. . Also, explain the safety measures to be taken while making payments through different modes of payment. Tell students about some popular E-commerce websites such as Amazon, Flipkart, Snap deal, Alibaba, etc. After completing the E-commerce, explain the concept of Blogging where they can share their thoughts and their passion Demonstrate the process of creating, posting and viewing the blogs.			it.
October 15	**Html 5**	**HTML and Creating Forms** Understanding that forms provide an easy way to collect required information from web page visitors. **Cascading Style Sheets (CSS) and Adding Multimedia** Learning how to create and add Forms on web pages. Understanding the role of Cascading Style Sheets in controlling an element. Within a single web page or throughout the website. Adding Multimedia and Cascading style sheets to the web pages.	Begin the chapter by reviewing what they have already learnt in previous class about HTML. Discuss the role of forms to collect information from the people who visit your website. Explain Input Control and its various types. Discuss and demonstrate about the tags used for setting up the Form. Demonstrate the process of applying tags for creating a Text box, Password box, large text area, checkboxes, Radio buttons, List box, Submit button and Reset button.	Will be able: ● To create the project by following the steps mentioned in the book. ● Able to create creative HTML pages by using CSS and incorporating multimedia elem	Create a admission form	**HTML + Science Integration** Create a **web page** that displays **scientific experiments**, **formulas**, or **data analysis** using **HTML forms** and **multimedia** (images, videos, charts).

			Discuss how to incorporate Multimedia in web pages. Demonstrate the tags to add audio and video files to the web pages. Now discuss about the Cascading Style Sheets and where they can be used. Demonstrate the tags to create Inline, Internal and External Style Sheets. Also, demonstrate the tags for indenting text, changing margin through CSS or by using DIV tag.			
November 17	**one shot**	**Movie** Understand OpenShot video editor and its components **OpenShot Video Editor**. Learn to add images, videos, music files in OpenShot. **Applying Visual Effects** Learn to add or remove transition and visual effects **Editing Media Clips** Learn to add title, caption and edit media clips **Save**. Save and export OpenShot project.	● Briefly explain about movie and format of movie: real movie, animation movie and medium of movie: cinema hall, online platform. ● Explain storage and editing of a movie. ● Explain and demonstrate how to install and start OpenShot video editor. ● Explain OpenShot window: title bar, menu bar, main toolbar, filter box, project files, preview window, function tabs, timeline, ruler, play head, zoom slider, edit toolbar, tracks ● Demonstrate how to add photos, videos and audio in OpenShot. ● Demonstrate how to add files to the timeline. ● Explain and demonstrate how to apply transition effect, visual effect, add text, edit media clips.	● will be able to explain and demonstrate types of OpenShot window and to add photos, videos, audio in OpenShot	Create a short movie on animals	**Subject integration English** Create a movie on a poet from your English Literature book and add the following features.

			● Demonstrate how to save and export a project in OpenShot video editor			
	App development	**Introduction to App , creating apps** Differentiating between Android and iOS. Differentiating between different types of apps: native, web and hybrid Identifying the different categories of apps based on the purpose they serve. Familiarizing ourselves with the steps to run, install or remove an app. Developing, testing and running apps.	Demonstrate the working of Apps by demonstrating how to install, Run or remove an App. Using lecture method to explain the topics.	Will enjoy learning App development and will create his or her own interesting Apps using MIT App inventor.	Create an app on computer parts and save it in 'Lab Activity' folder. Add a background image to the screen and six buttons, namely, Parts of Computer, Input Devices, Processing Device, Storage Devices, Output Devices and Back button. Whenever you click on any of the buttons, appropriate image should be opened with the spoken message regarding the topic.	**Social Studies Integration** **Task:** Create an **app** that **teaches history**, **culture**, or **geographical information** using **multimedia content**.
December 14	AI possibility	**Evolution of Artificial Intelligence** Learn about the evolution of AI **AI in various fields.** Understand the future prospect of AI in	● Briefly explain the evolution of Artificial Intelligence. ● Briefly explain the future possibilities of Artificial	will be able to explain the future possibilities of AI and will also be able to explain evolution of AI	Create a timeline of AI	**English** Debate on AI bane or boon

		various fields. **AI careers** Understand the specific skill set required for future AI careers. **AI Lab** Learn about the ethical concerns related to the implications of AI.	Intelligence in various fields: AI in military, AI in research, AI in healthcare, AI in entertainment, AI in coding, AI in transportation. ● Briefly explain the future AI careers with specific skill set. ● Briefly explain ethical concerns related to implications of AI. ● Explain and demonstrate how to use AI lab		
January 8	Revision				