LOTUS PETAL SENIOR SECONDARY SCHOOL
GRADE - 6
SUBJECT - Computer

Month	Chapter /Topic	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
April 18	Computer and It's component	**Introduction to Computer** Common terms related to computer systems. Benefits of using a computer system. **How Does a Computer Work?** Working of the computer based on input, process, output and storage. **Input and output Devices and Storage devices** Common input, output, storage and processing devices.	Give a brief recapitulation to the students to refresh their learning based on previous classes. Give them a brief introduction about a computer and how it has become an integral part of our lives. Familiarize students with the common terms related to the computer. Telling them about the benefits of using computer and how they aid us in every sphere of our lives. Give a brief revision of the Input-Process-Output (IPO) cycle by citing examples of other machines based on the same principle. Briefly discuss the working of the computer by keeping input, process, output and storage in mind. Into a computer. Explain the use of input devices to enter data, instructions, and commands Briefly discuss the features of various input devices such as keyboard, mouse, touch pad, joystick, graphic tablet, touch screen, motion input, digital camera,	Will be able to understand : - To understand the working of a computer and the various input, process, output and storage devices involved in the process. - To explain the working of a computer efficiently with real life examples. They will also able to identify the different devices of a computer and categorize them as Input, output, storage or processing device.	Make a presentation on computer devices using relevant pictures.	Students create **flashcards** (keyboard, printer, hard disk) and explain their function in a class presentation an

			microphone, scanner, barcode reader, Magnetic Ink Character Recognition (MICR) reader. Discuss the use of output devices such as monitor, printer, speakers, data projector, smartboard, etc. to convey information to a user. Discuss the use of storage devices such as hard disk drive, optical disc, flash drive, memory card, etc., to store data and information for future use. Discuss the use of CPU to process data in a computer system. Summarize the chapter by discussing the manufacturers of CPU and different types of multi-core processor available today.			
May 11	**Internet Services and Safety**	**Internet** Revise internet and its uses. **Ways to Connect the Internet** Learning different ways to be connected to the Internet through: Dial-Up Connection or Broadband Connection. **Searching Information on Internet** Learning about different services of the Internet: Sharing Photos on Web, Web App, E-banking, Team viewer, Social Networking, Blogging, FTP, LinkedIn, Video Conferencing, E-commerce and WhatsApp Messenger. Searching information on the Internet through Search	● Introduce the students with the Internet & its different uses. ● ● Make them familiar with the different ways to connect to the internet: Dial- Up Connection or Broadband Connection. ● ● Describe the different services provided on the internet: Sharing Photos on Web, Web App, E-banking, TeamViewer, Social Networking, Blogging, FTP, LinkedIn, Video Conferencing, E-commerce and WhatsApp Messenger. ● ● Discuss search engines with popular examples, along with Search Directory. ● ● Discuss the safety measures to be taken while working on the Internet.	Will be able to understand : ● the different ways of connecting internet and the safety tips while working on the Internet ● To understand the different ways and services provided on Internet and they will be cautious while working through internet, as they are aware about cybercrimes.	Search about the cybercrime and cybersecurity and create a newspage (article) on it	Create a poster on how to protect yourself from threat

		Engine and Subject Directory. **Protecting Yourself from Identity Theft** Safety and security on the internet.				
July 21	**Excel Creating Worksheet**	**Microsoft Excel** Understand Microsoft Excel program as a powerful spreadsheet program that allows you to organize and maintain data, complete calculations and represent data in graphs. **Starting Excel** Understanding the various uses and features of Excel. **Creating Worksheet and Formatting Worksheet** Getting started with Excel 2016 and create a worksheet by using the different editing and formatting tools. **Generating a Series** Using AutoFill feature in Excel - to generate series to speed up the work.	Refresh the knowledge of the students regarding Microsoft Excel 2016 and the common terms related to Excel. Begin the chapter by discussing the fields in which data organization is important and the various uses and features of Excel. Assign the task of preparing an annual progress report to the students to practice working on Excel. By demonstrating the project, illustrate how to create a worksheet and enter data, save a workbook, select cells, edit data, delete data, undo changes, move and copy data, change column width, insert/delete a row/column/cell. Introduce students with special Auto fill feature of Excel through which they can generate any type of series as number series, date series, text series, etc. automatically which saves their time while entering data. Also, demonstrate different formatting options to make changes in the worksheet and make it more presentable and appealing. Demonstrate how to change font, font size, centre data, bold, italic and underline data, change alignment, change cell colour, change data colour, and add border. Make them familiar with the use of conditional formatting and the steps to add/re	Will be able to: - Create a worksheet and enter data into it. They will also be able edit and format their worksheet to make it more presentable and attractive. - To enter data and create a worksheet in a more legible outlook by using different editing and formatting options. They will Experiment using conditional formatting and Auto Fill feature to enhance their knowledge.	Open Excel and create the following worksheet.Now, follow these instructions: a. Choose proper font size and style for the title. b. Center align the AREA and DENSITY. c. Change the heading color to green. d. Change the font style of states to bold and italic. e. Change the color of AREA cells to yellow and Density cells to blue. f. Apply a border to the table. g. Save the	Project: Annual Progress Report **Mathematics This integration will make the students learn to convert data into meaningful information using formulas.**

					workbook as 'Indian States'	
August 14	**Excel Creating charts**	**Introduction to Formula** Understand what is a formula, cell reference, cell range, operators, order of calculation, and error in formula. **Creating a Formula** Learn the steps to create a formula by entering, editing and copying a formula. **Functions in Excel** What is a function in Excel and differentiating between formula and function? Utilizing average, max and min functions in Excel. Learn some additional functions such as calculating loan terms, optimizing a result with goal seek, finding square roots, adding conditional sum. **Cell Reference** Understand cell reference and its three types: relative, absolute and mixed, **Changing Number Formats** Change number formats and increasing/decreasing decimals **Worksheet and Views** Proficiently work with multiple worksheets and learn how to add, rename, colour a tab and delete a worksheet. In addition, different views available.	Initiate a discussion about the worksheet the students had created in the previous chapter to create annual progress reports in which they have entered the marks of different subjects of the students. Now, we need to complete the report by calculating the total marks and percentage of all the students. Introduce the students to the formulas and functions feature provided in Excel, which allows us to perform even bulky calculations quickly and easily. Introduce them with the concept of formula and how it can be used to perform all kinds of calculations in your Excel data. Also make them familiar with cell reference, cell range, and different types of operators: arithmetic, comparison, reference, and logical. Explain what is meant by 'order of calculation' and the different types of errors displayed when Excel is not able to properly calculate or display the result of a formula. Demonstrate the process of creating, entering, editing and copying a formula in a worksheet. Demonstrate the process of copying a formula across the rows or columns within the worksheet using AutoFill feature. Introduce the students to the concept of Functions in Excel and how a Function is, differ from a Formula. Discuss the rules to be followed while creating a function and demonstrating The process of using different functions like Average, Max, Min, AutoSum, etc. Introduce them with some more functions like Payment, Goal Seek, SQRT,	Will be able to understand : ● Create and enter formula and functions to carry out calculations in Excel. ● Make efficient use of functions and formula in Excel, and will be able to incorporate the use of number formats. ● To open the worksheet and create a chart for the given values. ● To utilize the different types of charts to represent the given values in Excel. They will use SmartArt and spark lines to make the document more interactive.	*Create Sparklines Chart showing the sales of three years. * Create a Column Chart showing the sales of three years. * Create a Pie Chart showing the performance of Salesman for three years. * Apply formatting on Row Header.	Create a worksheet showing the medal tally in Olympics 2024 **General Knowledge This integration will make the students aware of the medal tally of top twenty countries in Tokyo Olympics.**

			SUMIF and demonstrate the process to apply these functions. Make them understand the concept of Cell Reference and its different types: relative, absolute and mixed. Clear the concept of each type by demonstrating an example. Discuss how number formats can be used to control the appearance of numerical data. Demonstrate the steps to apply any number format and increase			
September 7	**Google Apps**	**Introduction to Google** Learning about Google and its web-based applications collectively called Google Apps, which are totally based on Cloud computing. **Google uses and Google Devices** Using Google services for surfing and research purposes: Google Chrome, Google Maps, Google Translate, Google Search Engine, Google Assistant and Google Earth. Using Gmail, Google Blogger, Google Allow and Google Duo for connecting and Communication purposes. Using Google Calendar and Google Photos for organizational purposes. Using Google Docs, Google Classroom, Google Drive and Google Chrome OS to step up	Begin the chapter by introducing the students to Google, explaining how it is not just a search engine but also a developer of a number of web-based applications collectively called Google Apps. Make them familiar with the different Google apps developed by Google and categorize them into particular groups. Explain the purpose and importance of each app categorized into a groups Like - for surfing and research, for staying in touch, for organizing your stuff, for watching, listening and playing, and some of the devices introduced by the Google. Also, ask students some examples where they might have use one other app in their daily routine.	Will be able : ● To use most of the Google apps and will work online. ● To make optimum use of most Google apps.	Research about CEO: Google and Alphabet	Draw icons of various google apps (**Art integration**)

		our working life. YouTube, Google Play, Google Android can be used for watching, listening and playing. Google Devices like Google Pixel, Google Class and Google Home can be used To convert our homes into smart homes.				
October 15	**Python**	**Programming language** Understand about programming language and Python. **Tokens** Understand the role of gamification in coding Understand tokens, lines and indentations and variables. **Function** Understand input and output function	● Begin the chapter by discussing the need of computer programming languages and introduce the students to the programming language – Python. ● Explain and demonstrate using code combat for learning programming. ● Briefly explain the features of Python programming. ● Demonstrate the process to install Python and introduce them with the Python window also called Python shell. ● Make them familiar with its interactive mode showing the welcome message with version details and three greater than signs called prompt. ● Explain tokens and its types: indentifiers, delimiter, keywords, literals, operators. ● Explain lines and indentation. ● Explain comments and statements. ● Explain data type and variables. ● Explain input and output functions.	● will be able to create programs in Python on their own with minimum guidance.	Programs

			● Demonstrate a small program to make them understand the concept of programming in Python			
November 17	**Computer Memory**	**Computer memory** The concept of computer memory. **Memory units** Different memory units to measure memory of computer **Types of computer memory** Primary and Secondary Types of Primary Memory - Random Access Memory (RAM) & Read Only Memory (ROM) **Cache memory** Functions of Cache Memory and Secondary Memory	Describe the role and requirement of memory in a computer. Explain how computer memory is measured in bits and bytes. Brief the students about the different units of memory measurement and their equivalents. Introduce them with the two types of computer memory - primary and secondary memory. Brief them about primary memory and its two major types - Random Access Memory (RAM) & Read Only Memory (ROM). Discuss about the different types of RAM and ROM. Demonstrate the RAM and ROM chip by dismantling an old CPU, if possible, and show how they are attached to the Motherboard. Mark out the differences between RAM & ROM. Discuss about the Cache Memory and how does it improve the speed of a computer. Discuss the limits of primary memory and the need of secondary memory to store data permanently.	Will be able to understand : ● the concept of Computer Memory and its Types. They will also understand the importance of Primary (RAM and ROM). ● Will understand the concept of Computer Memory and its two major types: Primary (RAM and ROM) and Secondary Memory. They will also identify the limits of RAM & ROM and explicate the need for secondary memory. They will also be able to cite examples of different secondary	Create a PowerPoint presentation on various secondary storage devices	Create a poster on computer lab rules
December 14	**Cloud Computing**	**Cloud Computing** Understand cloud computing.. Understand the advantages and characteristics of cloud computing **Services** Understand various types of	● Begin the chapter by introducing the need for storage and sharing of data within the computer. ● Introduce them with cloud computing and describe the reasons for choosing cloud computing as a storage media.	● will work through cloud computing and will be able to work on Google Drive efficiently.	Uploading a Folder on Google Drive and Sharing It Follow the given instructions:	Divide the students into two groups and discuss the topic– 'Advantages and Disadvantages of Cloud

		cloud computing and its services **Google drive** Understand the advantages and characteristics of cloud computing	• Discuss about advantages and characteristics of cloud computing. • Explain the different types and services provided in cloud computing. • Tell them about working on cloud computing through Google Drive. • Discuss about advantages of Google Drive. • Explain and demonstrate the steps to open, upload, organize, share files and sign out from it.		a. Open web browser, go to drive.google.com and sign in. b. At the top left, click New and then Folder Upload. c. Select the 'Lab Activity' folder that you created in Chapter 1. d. After uploading, select the folder you want to share. e. Click on Share button. Share with others dialog box appears. f. Type the e-mail ID of your teacher. g. Click on Send.	Computing'. **Communication**
	Fields of artificial Intelligence	Understand different types of AI Understand the importance of AI Understand different fields of AI Understand AI ethics.	• Briefly explain the meaning of Artificial Intelligence. • Briefly explain the categories of AI: artificial narrow intelligence, artificial general intelligence, artificial super intelligence. • Briefly explain the importance of AI: AI in gaming, AI in e-commerce, AI in banking, AI in robotics, AI in healthcare. • Briefly explain fields of AI: machine learning, deep learning, neural network. ! Briefly explain AI ethics. • Explain and demonstrate how to play game in AI lab	• will be able to explain the categories of AI and can also explain importance and fields of AI.	AI Lab:- MICROSOFT COMPUTER VISION	Ethical Debate on debate on the topic: *"Is AI a threat or a boon?"* (Language Integration)

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