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1. Computer Basics

EXERCISE

A. Multiple Choice Questions.

1. (a) 2. (d) 3. (d) 4. (b) 5. (c) 6. (b) 7. (c) 8. (b) 9. (d) 10. (c) 11. (b) 12. (d) 13. (c) 14. (b)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. T 5. F 6. T 7. T 8. F 9. F 10. T 11. T 12. T 13. F 14. T 15. T

C. Fill in the Blanks.

1. human history 2. embedded 3. electronic device 4. feel, touch 5. input device
6. Digital camera 7. Microphone 8. stylus 9. Optical Mark Reader 10. Monitor
11. Dot Matrix 12. Non Impact Printers 13. Plotter 14. Motherboard 15. ALU
16. Control Unit 17. ROM 18. Blue Ray Disc

D. Very Short Answer Type Questions.

1. Hardware and software are two basic parts of a computer.
2. Web browsers and Word processors are examples of software.
3. In desktop publishing, computers are used for creating page layouts for entire books.
4. The computer play many roles in business, including communications, data storage and data analysis.
5. Input unit, storage unit, output unit and processing unit are functional unit of a computer.
6. A keyboard is an input device that allows a user to enter letters, numbers and other symbols into a computer.
7. Bar code reader is an input device used to read the series of black strips (bars) present on many products, called bar codes.
8. The basic use of web camera is to captures live movements and send them as input to the computer.
9. OCR is a software that scans documents containing texts and converts them into documents that can be edited.
10. MICR (Magnetic Ink Character Recognition) is a character recognition technology used to read characters printed in a special font using magnetic ink by banking industry.
11. Impact printer and Non-impact printer are two categories of printers. Non-impact printers are more speedy.
12. Plotter is the special type of printers which are used to draw high quality images.
13. Microphone is an input device that is used to input speech to the computer.

2. Types of Software

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (b) 3. (d) 4. (d) 5. (d)

B. State T for True and F for False Statement.

1. T 2. T 3. T 4. T 5. T 6. T 7. T 8. T

C. Fill in the Blanks.

1. Software 2. Operating System 3. Microsoft Windows 4. program 5. System Software

D. Very Short Answer Type Questions.

1. Yes, software is necessary for every computer because are computer does not perform any task without software. A computer without a software is just like a car without a driver.

2. Utility software is a small program that provides additional capabilities to the computer. These include, antivirus, backup, disk repair, etc.

3. BIOS (Basic Input/Output System) is a ROM chip located on all motherboards that allows you to access and set up computer system at the most basic level.

4. An operating system is a set of programs that coordinates all the activities among computer hardware devices. It manages the flow of data and instruction between the input/output units and the main memory.

5. Tangible parts of a computer that can be seen and touch are called hardware whereas intangible parts that cannot be seen and touch are called software.

6. The key difference between source program and object program is that source program is a human-readable program written by a programmer while object program is a machine executable program created by compiling a source program.

3. Computer Networking

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (d) 3. (d) 4. (b) 5. (c) 6. (c) 7. (c) 8. (a) 9. (b) 10. (b)

B. State T for True and F for False Statement.

1. T 2. F 3. F 4. F 5. F 6. T 7. T 8. T 9. T 10. F

C. Fill in the Blanks.

1. Workstation 2. Network 3. Modem 4. 100 Mbps 5. WAN 6. Multimedia 7. Baud 8. Asynchronous data 9. Simplex 10. two separate

D. Very Short Answer Type Questions.

1. Networking is the practice of linking two or more computing devices together for the purpose of sharing data.

2. A modem is a communication device that is used to provide the connectivity with the internet and converts the digital data into the analog and analog to digital.

3. Full name of PAN is Personal Area Network.

4. Network topology is the schematic diagram showing how the networks are connected physically and logically.

5. A network protocol defines rules and conventions for communication between network devices. Network protocol include mechanism for devices to identify and make connection with each other.

6. Following are the basic elements of communication system:

   (i) Information sender (ii) Transmitter (iii) Channel (iv) Receiver (v) Information receiver

7. The Internet is a network of networks that consist of millions of smaller networks worldwide, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet.

8. A satellite is a space station that receives microwave signals from an earth based station, amplifies the signals then broadcasts the signals back over a wide area.

9. WiMAX (Worldwide Interoperability for Microwave Access) is a communication technology for wirelessly delivering high-speed Internet service to large geographical areas.

10. Wi-Fi is the name of a wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections.

4. Multimedia

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (a) 3. (d) 4. (b) 5. (a) 6. (b) 7. (b) 8. (a) 9. (d) 10. (b)

B. State T for True and F for False Statement.

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

C. Fill in the Blanks.

1. Pixel 2. Datum 3. coder-decoder 4. raster 5. vector

D. Very Short Answer Type Questions.

1. In Education, multimedia is used to produce computer based training course called CBT and reference books like encyclopedia and almanacs. In Industry, multimedia is also helpful for providing employee training, advertising and selling products all over the world via virtually unlimited web-based technologies.

2. A codec is a device or computer program which encodes or decodes a digital data stream or signal.

3. Graphic Interchange Format (GIF).

4. JPEG stands for Joint Photographic Experts Group. It is a standardized image compression mechanism.

5. Tagged Image File Format (TIFF) is a file format for storing images, including photographs and line art.

6. SVG (Scalable Vector Graphics) is a vector graphic format based on XML and is used to display a variety of graphics on the Web and other environments.

7. Following are the applications of multimedia:

   (i) Creative industries (ii) Commercial (iii) Entertainment and Fine arts (iv) Education (v) Engineering (vi) Industry (vii) Mathematical and Scientific Research (viii) Medicine

8. Two types of codecs are: Lossless codecs and Lossy codecs.

Lossless codec is a data compression algorithm that allows for the compression and decompression of files without any loss of quality.

Lossy codec is a data algorithm that discards some data in the file to make it easier to transmit. This is usually utilized when network connection is not great.

5. Cyber Safety

EXERCISE

A. Multiple Choice Questions.

1. (a) 2. (c) 3. (b) 4. (a) 5. (d) 6. (d) 7. (a) 8. (b) 9. (c) 10. (d) 11. (d)

B. State T for True and F for False Statement.

1. F 2. F 3. T 4. T 5. T 6. T 7. T 8. F

C. Very Short Answer Type Questions.

1. Cyberspace is a domain characterized by the use of electronics and the electromagnetic spectrum to store, modify and exchange data via networked systems and associated physical infrastructures.
2. Firewalls are the first line of cyber defence that is designed to prevent unauthorized access to or from a private network.
3. Antivirus software is a computer program used to prevent, detect and remove viruses.
4. Anti-spyware is a type of software that is designed to detect and remove unwanted spyware programs.
5. Following are the risks that Internet users face:
   • Cyber bullying • Cyber Predators • Phishing etc.
6. Yes.
7. Malicious content means documents or programs that are infected with viruses, websites that attempt to infect your computer with a virus.
8. Cyber security refers to the body of technologies, processes and practices designed to protect networks, devices, programs and data from attack, damage or unauthorized access.
9. Cyber law is the part of the overall respective legal system that deals with the Internet, cyberspace and their respective legal issues.
10. Fraud that is committed using the internet is called online fraud. Online fraud can involve financial fraud and identity theft.

6. Word Processing Tools

EXERCISE

A. Multiple Choice Questions.

1. (d) 2. (c) 3. (a) 4. (a) 5. (c) 6. (b) 7. (b) 8. (a) 9. (b) 10. (c) 11. (d) 12. (a) 13. (a) 14. (b)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. T 5. T 6. F 7. F 8. T 9. F 10. T 11. F 12. T 13. F 14. T 15. T 16. T 17. T 18. F 19. F 20. F

C. Very Short Answer Type Questions.

1. A word processor is a software or a device that allows users to create, edit and print document.
2. There are five options are available in Home Tab Group: Clipboard, Font, Paragraph, Styles and Editing.
3. The process of formatting a document involves specifying how the document will look in its final form on the screen when printed. Formatting includes the font, font size, color, alignment, spacing and margins, etc.
4. A thesaurus is a software tool that provides synonyms for selected words on command.
5. A margin is the space between the text and the edge of document. By default, a new document's margins are set to Normal, which means it has a one-inch space between the text and each edge.

7. Digital Presentation

EXERCISE

A. Multiple Choice Questions.

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

B. State T for True and F for False Statement.

1. F 2. T 3. F 4. F 5. T 6. T 7. T 8. T 9. T 10. F 11. F 12. T 13. F 14. F 15. T

C. Very Short Answer Type Questions.

1. The possible multimedia content those are included while creating a presentation is as follows: Slides, Videos, Audios, Digital representations and cartoon characters.
2. A slide is a single page of a presentation.
3. Slide sorter view is an exclusive view of the slides in thumbnail form. It gives an overall picture of presentation.
4. In PowerPoint presentation, Text, Pictures, Tables, Graph, Shapes, ClipArt, Videos, Animation, WordArt, etc., are many objects that can be inserted.
5. Following are the steps to add the slide number of the bottom of each slide:
   (i) On the Insert tab, click Header & Footer.
   (ii) In the Header and Footer box, on the Slide Tab, select the slide number check box and then in the Starts at box, type the page number that you want to start with on the first slide.
   (iii) Click Apply to All.
6. Following are the five views of presentation:
   (i) Normal View   (ii) Slide Sorter View
   (iii) Notes page view   (iv) Outline View
   (v) Slide Show View

8. Spreadsheet Tools

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (b) 3. (a) 4. (d) 5. (c) 6. (d) 7. (d) 8. (b) 9. (a) 10. (a) 11. (c) 12. (a) 13. (c)
14. (d) 15. (d) 16. (a) 17. (c) 18. (a) 19. (d)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. T 5. F 6. F 7. T 8. F 9. T

C. Fill in the Blanks.

1. unprotect 2. File → Print 3. Insert 4. Page layout → Print Gridlines

D. Very Short Answer Type Questions.

1. Workbook.
2. The default name of the worksheet is "Sheet" plus a number i.e., Sheet 1.
3. To rename a worksheet follow the give steps:
   (i) At the bottom of the Excel window, right-click on the worksheet tab you want to rename.
   (ii) Click the Rename option.
   (iii) Type in the new name for the worksheet and press enter key.
4. SUM( ), SUMIF( ), AVERAGE( ) and COUNT( ).
5. IF( ), IFERROR( ) and AND.
6. Addition, subtraction, multiplication and division are basic calculation in spreadsheet.
7. A stock register is a detailed record kept of the shares issued by a corporation as well as any repurchases and transfers between shareholders.
8. An active cell is a rectangular box that highlights the cell in a spreadsheet. It helps to identify what cell is being worked with and where data will be entered.

9. Scratch

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (c) 3. (a) 4. (b) 5. (b) 6. (a) 7. (a) 8. (a) 9. (b)

B. State T for True and F for False Statement.

1. F 2. F 3. F 4. F 5. F 6. F

C. Very Short Answer Type Questions.

1. Scratch is a visual programming language that allows students to create their own interactive stories games and animations.
2. Scratch is designed to be fun, educational, and easy to learn. It has tools for creating interactive stories, games, art, simulations and more using block-based programming.
3. Sprite is the actor or main character of the project. Sprites are programmed to do something in scratch. A project can have lots of sprites.
4. A script is a collection or stack of blocks that all interlock with one another. The blocks and their order are very important, as they determine now sprits interect with each other. Scripts are programmed to make the sprites do things.
5. The Paint Editor is Scratch's built-in image editor. Many scratchers create their own sprites and backdrops using it. These images can be used in many ways, each having its own impact on its project.
6. A costume is one out of possibly many frames or alternate appearances of a sprite. Sprites can change their look to any of its costumes. They can be named, edited, created and deleted, but every sprite must have at least one costume.

7. The stamp tool allows you to make a duplicate copy by selecting an area of image and then paste it down.
8. The repeat block is a control block. It will process the code it contains for a given amount of time, before allowing its script to continue.

10. Python

EXERCISE

A. Multiple Choice Questions.

1. (d) 2. (a) 3. (a) 4. (a) 5. (b)

B. State T for True and F for False Statement.

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

C. Very Short Answer Type Questions.

1. Python is a simple, general purpose, high level and object oriented programming language.
2. Guido Van Rossum is known as the founder of Python programming.
3. Python is a high level and object oriented programming language.
4. The arguments that are given after the name of the program in the command line shell of the operating system are known as command line arguments.
5. To run a Python program click on Run then Run Module or Simply press F5 key.

Sample Question Paper

SECTION-A

1. Computer hardware is the collection of physical parts of a computer system that includes the computer case, monitor, keyboard and mouse etc. Computer hardware is what you can physically touch.
2. The five basic operations of a computer system are:
   (i) Input   (ii) Output   (iii) Processing   (iv) Storing   (v) Controlling
3. Hard disk
4. A network consists of two or more computers that are linked in order to share resources (such as printers, etc). Exchange files or allow electronic communication. The computers on a network may be linked through cables, telephone lines, radio waves, etc.

   OR

   Software is any set of instructions that tells the hardware what to do. It is what guides the hardware and tells it how to accomplish each task. Software is intangible in nature means you cannot touch them.
5. Malware is a short form for malicious software. Malware is computer programs designed to infitrate and damage computers without the users consent. Malware include viruses, worms, trojan horses and spyware.
6. Cyber security is the practice of protecting systems, networks and programs from digital attacks. These cyber attacks are usually aimed at accessing, changing or destroying sensitive information; extorting money from users, etc.
7. He must use an open source software. These are software for public development and their source codes are open.

SECTION-B

8. Following are the steps to insert a header or footer:
   - (i)   Select the Insert Tab.
   - (ii) Click either the Header or Footer command.
   - (iii) From the drop-down menu, select Blank to insert a blank header or footer, or choose one of the built-in options.
   - (iv) The Design tab will appear on the Ribbon and the header or footer will appear in the document.

9. Page orientation is the way in which a rectangular page is oriented for normal viewing either horizontally or vertically. The two most common types of orientation are portrait and landscape. In portrait page orientation, the page is taller than it is wide. But in landscape page orientation, the page is wider than it is tall.

10. Table Auto Formats are used to apply different formats to a cell range. A table auto format is a collection of cell styles used to format all cells of a range. The style applied is dependent on the position of the cell. The following are the steps to apply an Auto Format style to a table:
   - (i)   Highlight the data in the worksheet that you want to format.
   - (ii) Go to the Quick Access Toolbar and select AutoFormat.
   - (iii) In the AutoFormat dialog box, choose a style.
   - (iv) Select OK. The new style is applied to the table.

11. Following are the steps to create a new workbook in Excel:
   - (i)   Click on the File tab.
   - (ii) Select New from the left side bar.
   - (iii) Click on the Blank workbook and select create button.
          A new workbook will be created.

                                          OR

There are three types of data that can be input into a cell in Excel:

(i) Labels   (ii) Values   (iii) Formulas

   - **(i)   Labels** are descriptive pieces of information, such as names, months or other identifying statistics, and they usually include alphabetic characters.
   - **(ii) Values** are generally raw number or dates.
   - **(iii) Formulas** are instructions for Excel to perform calculations.

12. A chart is a powerful tool that allows us to visually display data in a variety of different chart formats such as Bar, Column, Pie, Line, Area, Doughnut, Scatter, Surface or Radar charts. Charts allow users to see what the results of data to better understand and predict current and future data.

13. Following are the components of PowerPoint window:
   - (i)   **Quick Access Toolbar** contains buttons for commonly used commands.
   - (ii) **Title bar** indicates the software, the name of the presentation that is open and window control buttons (minimize, maximize, close)
   - (iii) **Tabs** contain commands that are divided into related tasks called groups.
   - (iv) **Outline/slides tab** displays the presentation text in the form of an outline. Outline tab is used to organize and develop the content of presentation. Slide tab displays the slides of presentation as small images called thumbnails.

(v) **Slide Pane** contains the current slide in presentation.

(vi) **Notes Pane** is located below the slide pane and is used to type reference notes.

(vii) **View area** is located at the right hand bottom of the screen. It contains buttons that allow to switch between PowerPoint views.

(viii) **Status bar** is located at the bottom of window that shows information such as slide number, etc.

14. (i) To view slides together Nidhi used Slide Sorter View.

(ii) Rehearse Timings feature is used.

<div align="center">OR</div>

Following are the safety measures to be taken, while using computer and internet:

(i) Always install operating system updates.

(ii) Keep your installed applications upto date.

(iii) Do not use the same password at every site.

(iv) Install and be sure to update your anti virus software.

(v) Use a firewall.

(vi) Backup your data.

(vii) Enable the display of file extensions.

(viii) Do not open attachments from people you do not know.

(ix) Ignore emails that state you won a contest or a stranger asking for assistance with their inheritance.

(x) Ignore web pop ups that state your computer is infected or has a problem.

(xi) Ignore and close web pop ups that pretend to be a windows alert.

SECTION-C

15. Scratch is an open source system that enables individuals to program interactive stories, games and animations. Instead of typing code, Scratch uses visual block like puzzle pieces to create a program. Scratch is used as a means of teaching and fundamentals of computer programming in schools and can be easily used by students and teachers.

16. (i) Sound Blocks are one of the eight categories of Scratch blocks. They are color-coded pink and are used to control sound and MIDI functions. There are currently eleven stack blocks and two reporter blocks in this category.

(ii) Control blocks is one of the eight categories of Scratch blocks. They are color-coded gold and are used to control scripts. If the condition is true the blocks held inside it will run, and then the script involved will continue. If the condition is false, the code inside the block will be ignored and the script will move on.

(iii) The sprite pane is an area of the graphical user interface of the Scratch program where all sprites present in a project can be easily accessed to modify or inspect. It is a white area located beneath the Stage with the label "Sprites" in its grey header.

17. Following are the basic screen elements of scratch:

(i) **Stage** similar to the stage in a play. This is where everything will take place. The stage can be different backgrounds, just like in a play.

(ii) **Sprites** are the actors or main characters of the project. Sprites are programmed to do something in Scratch.

(iii) **Script** tells the actors what to say or do. Each sprite is programmed with a script.

(iv) **Programming Palette** elements used to program the sprite to do or say something. Sprites must be programmed to carry out every function you want them to perform.

SECTION-D

18. Following are the steps to save the program is Phython:

(i) Go to File and click on Save as.

(ii) In the field save in browse for the C: drive and then select the folder Python Programs.

(iii) For the field file name remove everything that is there and type in Hello.py

(iv) In the field save as type select All Files.

(v) Click on Save.

19. >>>print('Test'*4)

Output → Test Test Test Test

>>>print('7' + '8')

Output → 15

OR

>>>Print('Test'*4)

Output → Test 4

>>>Print('7' + '8')

Output → 78

21. 1.   a = int(input ("Enter first number:"))

2.   b = int(input("Enter second number:"))

3.   Sum = a + b

4.   Print ("Sum is", Sum)

Icon-X 10

EXERCISE

A. Multiple Choice Questions.

1. (a)   2. (d)   3. (a)   4. (a and d)   5. (a)   6. (b)   7. (a)   8. (c)   9. (d)   10. (a)   11. (b)   12. (b)
13. (c)   14. (c)   15. (d)   16. (c)   17. (a)   18. (b)   19. (b)   20. (c)

B. State T for True and F for False Statement.

1. T   2. F   3. T   4. T   5. T   6. F   7. T   8. T   9. F   10. T   11. F   12. T   13. T   14. F   15. F

C. Very Short Answer Type Questions.

1. Internet is a world-wide global system of inter connected computer networks providing a variety of information and communication facilities, using standardized communication protocols.

2. An E-mail (electronic mail) is a message sent from one computer to another over the Internet, using a set webmail server address.

3. Online chat may refers to any kind of communication over the Internet that offers a real-time transmission of text message from sender to receiver.

4. A computer virus is a malicious software program loaded onto a user's computer without the user's knowledge and performs malicious actions. It can self-replicate, inserting itself onto other programs of files, infecting them in the process.

5. Spamming is the use of messaging system to send an unsolicited message (spam), especially advertising as well as sending messages repeatedly on the same website.

6. Phishing is the fraudent attempt to obtain sensitive information such as usernames, passwords and credit card details by disguising oneself as a trust worthy entity in an electronic communication.

7. A router is a hardware device that allows you to connect several computers and other devices to a single Internet connection.

8. A web browser is a software application for accessing information on the World Wide Web. Common web browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, etc.

9. HTTP means Hyper Text Transfer Protocol. HTTP is the underlying protocol used by the World Wide Web and this protocol defines how messages and formatted and transmitted and what actions web servers and browsers should take in response to various commands.

10. A Uniform Resource Locator (URL) termed a web address, is a reference to a web resource that specifies its location on a computer network and a mechanism for retrieving it.

11. Gateway Access is also known as Level-one connection. It is the access to the Internet from a network, which is not on the Internet. The gateway allows the two different types of networks to talk to each other.

12. TCP/IP or the Transmission Control Protocol/Internet Protocol, is a suite of communication protocols used to interconnect network devices on the internet. It helps you to determine how a specific computer should be connected to the internet and how data should be transmitted between them.

13. 3G and 4G both are network that are most commonly used with mobile phones and tablet computers and it connects wirelessly through your ISP's network.

14. Internet Service Provider (ISP) is the private company or government organization that plugs you into the vast Internet around the world.

15. VSAT (Very Small Aperture Terminal) is a satellite communications system that serves home and business users. A VSAT ent user needs a box that interfaces between the user's computer and an outside antenna with a transceiver VSAT handles data, voice and video signals.

16. Malware is malicious software designed by hackers. Malware includes viruses, trojans, ratware, key Loggers, Zombie programs, and any other software that seeks to do any destructive work.

17. Firewall is a generic term to describe a barrier against destruction.
    A firewall is a system to prevent unauthorized access to or from a private network. You can implement a Firewall in either hardware or software form.

18. Information is data that has been processed, i.e., information is data that has been processed within a context to give it meaning.

19. A modem modulator-demodulator- is a hardware device that converts data into a format suitable for a transmission medium so that it can be transmitted from one computer to another.

20. Wireless security is the prevention of unauthorized access or damage to computers or data using wireless networks' which include Wi-Fi networks.

21. It is often viewed as the act of sending unsolicited email. This multiple or vast emailing is often compared to mass junk mailings.

22. A router is a hardware device that allows you to connect several computers and other devices to a single Internet connection, which is known as a home network. Many routers are wireless, allowing you to easily create a wireless network.

2. Internet Connectivity and its Services

EXERCISE

A. Multiple Choice Questions.

1. (d) 2. (a) 3. (c) 4. (d) 5. (d) 6. (a) 7. (c) 8. (a) 9. (b) 10. (b) 11. (c) 12. (b) 13. (c) 14. (b) 1 5. (d)

B. State T for True and F for False Statement.

1. T 2. T 3. F 4. T 5. T 6. T 7. T 8. T 9. T 10. F 11. F 12. T 13. T 14. T 15. F

C. Very Short Answer Type Questions.

1. The World Wide Web is a system of Internet servers that supports hypertext to access several Internet protocols on a single interface.

2. A cookie is a piece of text that a Web server can store on user's hard disk. Cookies allow a website to store information on a user's machine and later retrieve it. The pieces of information are stored as name-value pairs.

3. Electronic Mail (e-mail) is a message that may contain text, files, images, or other attachments sent through a network to a specified individual or group of individuals.

4. Following are the features of e-mail:
   (i) One-to-one or one-to-many communication.
   (ii) Instant communication.

(iii) Physical presence of recipients is not required.

(iv) Most inexpensive mail services, 24-hours a day and seven days a week.

(v) Encourage informal communications.

5. A mailing list is a collection of names and addresses used by an individual or an organization to send material to multiple recipients.

6. Instant messaging (IM) is a form of communication over the Internet that offers an instantaneous transmission of text-based messages from sender to receiver.

7. A newsgroup is a discussion about a particular subject consisting of notes consisting of notes written to a central internet site and redistributed through Usenet, a worldwide network of news discussion groups.

8. A chat room is an online forum where people can chat online (talk by broadcasting messages to people on the same forum in real time).

9. Internet Fax is a simple form of digital transmission for transmission of image over voice grade telephone system.

10. Internet with Telephone (Internet telephony) refers to communication services (voice, fax, SMS) and / or voice-messaging applications that are transported via the Internet, rather than the Public Switched Telephone Network (PSTN).

11. Social Networking refers to grouping of individuals and organizations together via some medium, in order to share thoughts, interests and activities. Facebook, Google+, Twitter, Linkedin, Whatsapp, etc., are examples of social networking sites.

12. Telnet is an application protocol used on the Internet or local area network to provide a bidirectional, interactive text-oriented communication facility using a virtual terminal connection.

3. Web Browsers

EXERCISE

A. Multiple Choice Questions.

1. (b) 2. (d) 3. (d) 4. (a) 5. (b)

B. State T for True and F for False Statement.

1. F 2. T 3. F 4. F 5. T 6. F 7. T 8. T 9. T 10. T

C. Very Short Answer Type Questions.

1. A web browser is a software application for accessing information on the World Wide Web. When a user requests a particular website, the web browser retrieves the necessary content from a web server and then displays the resulting web page on the user's device.

2. An address bar is a component of an Internet browser which is used to input and show the address of a website. It helps the user in navigation by allowing entry of an Internet Protocol address of a website.

3. Google is the search provider of Google Chrome.

4. Following are the steps to download a file:

(i) Right-click the file you want to download, then select Save Link as.

(ii) A dialog box will appear. Select the location where you wish to save the file, enter a file name, and click Save.

5. Suggested sites is a feature that enables you to find sites similar to the one you are visiting.

6. In Google Chrome tabs are used to view multiple websites in the same window.

7. The Address bar combined with Google search box is called omnibox. You can use omnibox to navigate to different websites or perform a google search.

8. The refresh button is a function of all Internet Browsers that is used to reload the current page. If a website stops working, try using the Refresh button.

4. Web Services

EXERCISE

A. Multiple Choice Questions.

1. (a) 2. (c) 3. (d) 4. (c) 5. (a) 6. (c) 7. (c) 8. (a) 9. (d) 10. (b)

B. State T for True and F for False Statement.

1. F 2. T 3. F 4. T 5. F 6. T 7. F 8. T 9. F 10. T

C. Very Short Answer Type Questions.

1. Chatting may refer to any kind of communication over the Internet that offers a real-time transmission of text messages from sender to receiver.

2. Gmail by Google, Outlook.com by Microsoft and yahoo.co.in by Yahoo.

3. Video conferencing is a visual communication between two or more users regardless of their location, featuring audio and video content transmission in real time.

4. E-learning is a simple understanding of learning concepts. Which comes outside the traditional learning process.

5. E-group is a feature in many social network services which allows users to create.post, comment to and read from their own interest.

6. A social networking service is an online platform which people use to build social networks or social relationship with other people who share similar personal or career interests, activities or real-life connections.

7. Same as Q. 4.

8. SixDegrees.com is the first socal networking site.

9. MMS stands for Multimedia Messaging Service is a standard way to send messages that include multimedia content (picture, video or audio) to and from a mobile phone over a cellular network.

10. The term 4G stands for Fourth generation and refers to mobile network technology that enables 4G compatible phones to connect to the internet faster than ever before.

5. Internet Protocols

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (c) 3. (b) 4. (a) 5. (d)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. F 5. T 6. T 7. F 8. F 9. F 10. T

C. Very Short Answer Type Questions.

1. The Transmission Control Protocol (TCP) is one of the main protocols of the Internet protocol suite. It originated in the initial network implementation in which it complemented the Internet Protocol.

2. The Internet Protocol (IP) is the principal communications protocol in the internet

protocol suite for relaying datagrams across network boundaries. It also specifies the addressing scheme.

3. Simple Mail Transfer Protocol (SMTP) is the standard protocol for e-mail services on a TCP/IP network. SMTP provides the ability to send and receive email messages.

4. Post Office Protocol Version 3 (POP3) is an application layer protocol used by e-mail clients to retrieve email messages from mail servers over. TCP/IP network POP3 has the option of leaving a copy on the server when it move the messages from server to local disk.

5. The Hypertext Transfer Protocol (HTTP) is an application level protocol for distributed, collaborative, hypermedia information systems. This protocol defines how messages are formatted and transmitted and what actions web servers and browsers should take in response to various commands.

6. Hypertext Transfer Protocol Secure (HTTPS) is a transfer protocol for websites that uses an SSL (Secure Sockets Layer) security certificate to ensure secure data transmission over the Internet.

7. Secure Socket Shell is a protocol which allows you to connect securely to a remote computer or a server by using a text based interface.

8. File Transfer Protocol (FTP) is a standard Internet Protocol for transmitting files between computers on the Internet over TCP/IP connections. FTP is a client-server protocol where a client will ask for a file, and a local or remote server will provide it.

9. Secure FTP is a popular method for securely transferring files over remote systems. SFTP was designed as an extension of the Secure Shell Protocol version 2.0 to enhance secure file transfer capabilities.

10. Secure copy is a file transfer protocol, which helps in transferring computer files securely from a local host to a remote host. It works on the Secure Shell Protocol Technique.

11. Telnet is a networking protocol and software program used to access remote computers and terminates over the Internet or a TCP/IP computer network. It works through a purpose-built program that provides connectivity between a remote computer/server and host computer.

12. Same as Ans. 3

6. HTML (Basic)

EXERCISE

A. **Multiple Choice Questions.**

1. (c) 2. (a) 3. (d) 4. (d) 5. (a) 6. (a) 7. (d) 8. (d) 9. (b) 10. (c) 11. (a) 12. (b) 13. (a) 14. (c)

B. **State T for True and F for False Statement.**

1. F 2. F 3. T 4. T 5. T 6. F 7. T 8. T 9. F 10. F 11. F 12. T 13. F 14. T

C. **Very Short Answer Type Questions.**

1. HTML stands for Hyptertext Markup Language, and it is the most widely used language for creating web pages.

2. Hyptertext is text which contains links to other texts or web pages (HTML documents). For example the word "Facebook" links to the Facebook page.

3. JPEG (Joint Photographic Experts Group) and GIF (Graphics Interchange Format).

4. A HTML document will have following structure:

<html>
<head>

```
                    Document header related tags
                    </head>
                    <body>
                    Document body related tags
                    </body>
                    </html>
```

5. The heading tag <h> is used in HTML to define headings of a page. HTML defines six levels of headings. The heading elements are <h1>, <h2>, <h3>, <h4>, <h5> and <h6>.

6. The paragraph (<P>) tag is used to structure your text into different paragraphs. Each paragraph of text should go in between on opening <P> and closing </P> tag.

7. A common character entity used in HTML is the non-breaking space & snbsp. A non-breaking space is a space that will not break into a new line. Two words separated by a non-breaking space will stick together.

8. An attribute is used to define the characteristics of an HTML element and is place inside the element's opening tag. All attributes are made up of two parts: a name and a value.

9. The <hr> horizontal rule tag is used to visually break up sections of a document. The size attribute of <hr> tag specifies the height of a horizontal line in pixels. For examples: <hr size = "30">

10. Following are the basic formatting tags of HTML:

    (i) <B> = Bold text
    (iii) <U> = Underlined text
    (v) <DEL> = Deleted text
    (vii) <SMALL> = Smaller text
    (ix) <SUP> = Superscript text

    (ii) <I> = Italic text
    (iv) <INS> = Inserted text
    (vi) <BIG> = Larger text
    (viii) <SUB> = Subscript text

11. The <body> tag represents the document's body which keeps other HTML tags like <h1>, <P> etc.

12. (i) **Left alignment:** This attribute aligns paragraph to the left side of the webpage.

    (ii) **Right alignment:** This attribute aligns paragraph to the right side of the webpage.

13. The <div> and <Span> tags are used to Group the content.

    The <div> is a block-level element and a <span> is an inline element.

    The <div> should be used to wrap sections of a document while use <spans> to wrap small portions of text, images, etc.

14. The bgcolor attribute of <body> tag is used to set the background color of an HTML element.

15. 14 & 15 both are same.

16. The HTML <Font> tag is used to define the font size, color and face of text in the HTML document.

17. The HTML <basefont> tag defines the default font family, font-size and color for the text in the HTML document.

18. An HTML Marquee is a scrolling piece of text displayed either horizontally across or vertically down your webpage, depending on the setting. This is done by using HTML <Marquees> tag.

7. HTML (Advanced)

EXERCISE

A. Multiple Choice Questions.

1. (b) 2. (b) 3. (a) 4. (c) 5. (b) 6. (c) 7. (b) 8. (a) 9. (d) 10. (a) 11. (c) 12. (b) 13. (b) 14. (b) 15. (c) 16. (d) 17. (c)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. F 5. T 6. F 7. F 8. F 9. F 10. T 11. T 12. T 13. T 14. F 15. F 16. F 17. T

C. Very Short Answer Type Questions.

1. GIF stands for 'Graphics Interchange Format'. GIF is an image file format commonly used for images on the world wide web.

2. PNG stands for 'Portable Network Graphic'. PNG is an image file format commonly used in web design to provide a transparent background and/or a semi-transparent image.

3. There are three types of list in html:
    (i)   An ordered list
    (ii) An unordered list
    (iii) A definition list

4. An unordered list is a collection of related items that have no special order or sequence. The <ul> tag is used for an unordered list.

5. An ordered list typically is a numbered list of items. The <ol> tag is used for an ordered list.

6. A definition list is a list of items with a description or definition of each item. The definition list is created using <dl> element.

7. You can use type attribute for <ul> tag to specify the type of bullet you like. By default it is a disc for unordered list.
    You can use type attribute for <ol> tag to specify the type of numbering you like. By default it is a number for ordered list.

8. The start attribute for <ol> tag is used to specify the starting point of numbering you need. For example:
    <ol type = "1" Start = "4"> – Numerals starts with 4.

9. The alternate text <alt> attribute is a mandatory attribute which specifies an alternate text for an image, if the image cannot be displayed.

10. The target attribute is used to specify the location where linked document is opened.
    For example: The blank option of target attribute opens the linked document in a new window or tab.

11. A web page can contain various links that take you directly to other pages and even specific parts of a given page. These links are known as hyperlinks.

12. The type attribute of the <link> element tells the browser what kind of resource you are linking.

13. The <tr> tag of <table> tag is used to create table rows.

14. You can set table background using one of the following two ways:
    (i) **bgcolor attribute** is used to set background color for whole table or just for one cell.
    (ii) **background attribute** is used to set background image for whole table or just for one cell.

15. The caption tag will serve as a title or explanation for the table and it shows up at the top of the table.

16. Following are the different types of form control:
    (i) Text Input Controls   (ii) Check boxes Controls
    (iii) Radio Box Controls   (iv) Select Box Controls
    (v) File Select Boxes   (vi) Hidden Controls
    (vii) Clickable Buttons   (viii) Submit and Rest Button
17. Text Input Control is a type of HTML form control that is used to collect data using HTML form.
18. There are 3 types of text input used on forms:
    (i) Single-line text input controls   (ii) Password input controls
    (iii) Multi-line text input controls
19. Check boxes are used when more than one option is required to be selected . Following are the attributes of <checkbox> tag:

Attribute	Description
type	Indicates the type of input control and for checkbox input control it will be set to checkbox.
name	Used to give a name to the control which is sent to the server to be recognized and get the value.
value	The value that will be used if the checkbox is selected.
checked	Set to checked if you want to select it by default.

20. Radio buttons are used when out of many options, just one option is required to be selected. They are created using <input> tag but type attribute is set to radio.

8. Cyber Ethics

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (d) 3. (d) 4. (c) 5. (c) 6. (c) 7. (a) 8. (d) 9. (a) 10. (a) 11. (d) 12. (a) 13. (c) 14. (d) 15. (c) 16. (d)

B. State T for True and F for False Statement.

1. F 2. T 3. T 4. F 5. T 6. F 7. F 8. T 9. T 10. T 11. T 12. F 13. F 14. T 15. T

C. Very Short Answer Type Questions.

1. Copyright refers to the legal right of the owner of intellectual property. This means that the original creators of products and anyone they give authorization to are the only ones with the exclusive right to reproduce the work.
2. Trademark are granted work, symbol or a name that is used to identify a service or goods. They only protect the identity and not the underlined invention or creative work.
3. Netiquette is short form of Internet etiquette. Netiquette is a code of good behavior on the Internet.
4. A hacker is someone who seeks and exploits weakness in a computer system or computer network.
5. WIPO is a United Nations agency charged with protecting intellectual property through an international system that promotes and sustains creativity and innovation and helps develop international economies.

6. Patent means protected by a government issued right allowing someone to make and sell a product or service for a certain amount of years without anyone being allowed to copy it.
7. Computer ethics is a set of moral principles that govern the behavior of a group or individual. Some common issues of computer ethics include intellectual property rights, privacy concerns, and how computers affect society.
8. A cracker is someone who breaks into someone else's computer system, often on a network; by passes passwords or license in computer programs; or in other ways intentionally beaches computer security.
9. Software piracy is the illegal copying, distribution, or use of software. It is such a profitable business that is has caught the attention of organized crime groups in a number of countries.
10. Spyware is a type of malware that is installed on computer and collects little bits of information at a time about users without their knowledge.
11. Adware, or advertising-supported software, is any software package that automatically plays, displays, or downloads advertisements to a computer after the software is installed on it or while the applications is being used.
12. Crimeware is a class of malware designed specifically to automate cyber crime. Its purpose is to carry out identity theft.
13. Spamming is the use of messaging systems to send an unsolicited message (spam), especially advertising, as well as sending messages repeatedly on the same website.
14. Phishing is an e-mail fraud method in which the criminal sends out legitimate-looking email in an attempt to gather personal and financial information from recipients.
15. Malware, short for Malicious Software, is software designed to gain access to a computer system without the owner's consent.
16. A computer virus is a piece of software that is designed to disrupt or stop the normal working of a computer. They are called viruses because they are passed on from one infected machine to another.
17. Worm is a program that is similar to a virus and has the ability to self-replicate leading to negative effects on a computer.
18. Trojans can illegally trace important login details of users online.
19. Antivirus Software is a data security utility which is installed in a computer system with a purpose of protection from viruses, spyware, malware, trojans, phishing attacks, spam attack and other online cyber threats.
20. A firewall is a part of a computer network that is designed to block unauthorized access from people outside the organization while permitting authorised communications inside the organization to the outside world.
21. Data encryption translates data into another form, or code, so that only people with access to a secret key (called decryption key) or password can read it. Encrypted data is called ciphertext. While unencrypted data is called plaintext.
22. Access authorization is the function of specifying access rights to resources related to information security and computer security in general and to access control in particular.
23. E-commerce short for electronic commerce is trading in products or services using computer networks, such as the Internet.

9. More on Scratch

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (a) 3. (b) 4. (a) 5. (b) 6. (d) 7. (a) 8. (c) 9. (b) 10. (a) 11. (d) 12. (c)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. T 5. F 6. T 7. T 8. T 9. F 10. F

C. Very Short Answer Type Questions.

1. Sprite is an object or a character either created by the user or found in the sprites library that performs actions under the instructions given by the user.

2. The Tempo in a project controls how fast or slow the instrumental blocks in Scratch play notes and drum beats. Tempo is represented as beats per minute (bpm).

3. Variables are the names of computer memory locations used to store values in computer program. In Scratch, variables are represented with blocks shaped like elongated circles, uniquely labeled by a user.

4. Event blocks are essential for every project, without the event blocks (hat blocks), a project would not be able to begin except by manually running scripts.

5. An algorithm is a procedure or formula for solving a problem, based on conducting a sequence of specified actions.

6. Stage in Scratch has a 2D coordinate system which uses 2 coordinates x position and y position to determine the location of a sprite on the stage. The x position value determines horizontal location of the sprite and the y position determines the vertical location.

7. Conditional operators are used to evaluate a condition that's applied to one or two boolean expressions. The result of the evaluation is either true or false.

8. Iteration is the second basic concept in computer programming and is the repetition of a sequence of commands (known as a loop). The control blocks in Scratch allow for iteration.

9. Blocks are puzzle-piece shapes that are used to create code in Scratch. The blocks connect to each other vertically like a jigsaw puzzle where each data type has its own shape and a specially shaped slot for it to be inserted into which prevents syntax errors.

10. An operator is a character that represents an action, as for example in computer programs, one of the most familiar sets of operators, the Boolean operators, is used to work with true/false values.

10. Python

EXERCISE

A. Multiple Choice Questions.

1. (c) 2. (d) 3. (a) 4. (a) 5. (d) 6. (a) 7. (c) 8. (b) 9. (b) 10. (d)

B. State T for True and F for False Statement.

1. T 2. F 3. T 4. F 5. F 6. T 7. T 8. F 9. F 10. T

C. Very Short Answer Type Questions.

1. Python numbers are datatypes that store numeric values. Number objects are created when you assign a value to them. For example var1 = 8.

Here, var 1 is a number datatype that stores numeric value 8.

2. Python strings are identified as a contiguous set of characters represented in the quotation marks. Python allow, for either pairs of single or double quotes. For example: str = 'Hello World'.

3. Python lists are type of data types. A list contains items separated by commas and enclosed within square brackets ([ ]). The values stored in a list can be accessed using the slice operator ([) and (:) with indexes starting at 0 in the beginning of the list and working their way to end -1.

   For example: List = ['abcd', 743, 'John']

4. A tuple is another sequence data type that is similar to the list. A tuple consists of a number of values separated by commas. Tuples are enclosed within parentheses.

   For example: tuple = ('abcd', 743, 'John')

5. Conditional statement is Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false. Conditional statements are handled by If statements in Python.

6. A loop is a programming function that iterates a statement or condition based on specified conditions. There are two types of looping constructs in Python:

   (i) While Statement   (ii) For Statement

7. The break statement is a control statement that terminates the loop containing it. Control of the program flows to the statement immediately after the body of the loop.

8. The continue statement in Python returns the control to the beginning of the loop. the continue statement rejects all the remaining statements in the current iteration of the loop and moves the control back to the top of the loop.

9. In Python, pass statement is used to implement slubs. When a user need a particular loop, class or function in our program, but do not know what goes in it, user place the Pass statement in it. It is a null statement.

10. The formula for sum of natural numbers is:

    Sum = $n(n + 1) / 2$

Sample Question Paper

SECTION-A

1. SMTP stands for Simple Mail Transfer Protocol.

2. alink stands for active link while vlink stands for visited link.

   When the cursor is positioned on the hyperlinked text, the coloured, specified in alink attribute (red) is seen. When the link has been clicked once, the colour changes to the one specified in vlink attribute (yellow).

3. BCC that is Blind Carbon Copy.

4. No, Shreyas did not do the correct thing because he should have taken permission from the owner of the art.

   Geetu's Intellectual copyright disclaimer was infringed by him.

   It can be said that Shreyas has plagiarised.

   OR

   Plagiarism is defined as the practice of directly copying and then presenting an existing production without accurate citing or referencing and/or passing off the product as one's own, without permission from the original producer.

5. 3G refers to the third generation while 4G refers to the fourth generation. The main difference between 3G and 4G is speed– 4G bring broadband to your phone. If you want to future proof your mobile communications, you need 4G, with speeds of upto ten times faster than 3G.

6. Digital divide is a term that refers to the gap between demographics and regions that have access to modern information and communications technology and those that don't or have restricted access. This technology can include the telephone, television personal computers and the Internet.

7. Ritwik can use free software available for free download or Open Source Software.

SECTION-B

8. An important application of e-Governance is exchange of information related to issues of Income Tax and Customs.

   An important application of e-commerce is the shopping portals present, such as Amazon and Flipkart.

9. • Do no share User ID and Password with anyone.
   • Avoid doing transactions from cyber cafe and other public places.

10. (a) You can type attribute for <ul> tag to specify the type of bullet.
    (b) The HTML <a> element (anchor element) with its href attribute, creates a hyperlink.

11.
<HEAD>	<HEAD>
<TITLE> My Cities </TITLE>	<TITLE> My Subjects </TITLE>
</HEAD>	</HEAD>
<BODY BGCOLOR = "YELLOW">	<BODY BGCOLOR = "RED">
<UL Type = "SQUARE"	<OL TYPE = "I">
<LI> DELHI </LI> **OR**	<LI> SCIENCE </LI>
<LI> MUMBAI </LI>	<LI> MATHS </LI>
</UL>	<LI> COMPUTERS </LI>
</BODY>	</OL>
</HTML>	</BODY>
	</HTML>

12. </DOCTYPE html>
    <html>
    <head>
    <style>
    body { background-color : blue;}
    h1 {color: black;}
    P{color; red, font-family: "Dotum";}
    </style>
    </head>
    <body>
    <h1> This is a heading </h1>
    <P> This is a paragraph </P>
    </body>
    </html>

13. (a)   <html>
             <head>

```
        <title> Use of horizontal rule </title>
        </head>
        <body>
        <P> My First Program </P>
        <hr color = "green">
        </body>
        </html>
(b)     <html>
        <head>
        <title> Creating a hyperlink </title>
        <body>
        <h1> HTML Links </h2>
        <a href = "lestimage · jpeg"> CLICK
        </a>
        </body>
        </html>
```

14.

ONE	TWO	THREE
	Rose	Lily
Pansy	Dahlia	

OR

```
<HTML>
<HEAD>
<TITLE> Table </TITLE>
</HEAD>
<BODY>
<TABLE BORDER = "1">
<TR>
<TD ROWSPAN = 2> SERIAL NO </TD>
<TD TOWSPAN = 2> CLASS </TD>
<TD COLSPAN = 3 ALIGN = CENTER> NUMBER OF STUDENTS </TD>
</TR>
<TR>
<TD> ENGLISH </TD>
<TD> HINDI </TD>
<TD> REGIONAL </TD>
</TR>
<TR>
<TD> 1 </TD>
<TD> XA </TD>
<TD> 35 </TD>
<TD> 10 </TD>
<TD> 6 </TD>
```

```
</TR>
<TR>
<TD> 2 </TD>
<TD> XB </TD>
<TD> 31 </TD>
<TD> 15 </TD>
<TD> 4 </TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

SECTION-C

15. (i) The instructions enclosed in the forever block keep on executing till the time the project is running or the Stop button is not pressed. The instructions enclosed in the repeat ( ) block execute for the given number of times.

(ii) **IF ( ) then block:** The If ( ) then block is a Control block. It will check the boolean condition. If the condition is true, the code held inside the block will run and the script will continue. If the condition is false, the code inside the block will be ignored and the Script will move out of the block.

IF ( ) then, else block: This is a Control block and a C block. If the condition is true, the code held inside the first C will be activated and then the script will continue, if the condition is false, the code inside the second C will be activated.

16. (i) Centre of the stage

(ii) It changes its costume and displays the caller box with message "Safe" for one second.

(iii) • Displays the caller box saying "Touched".
   • Turns on the left by 30 degrees.
   • Increases its size by 20 points.
   • Bounces back.

17. (i) Scripts tab/Sensing category of blocks.

(ii) Scripts tab/Data category of block.

SECTION-D

18. my-book and helloworld

19. (i) >>>Test Test Test

(ii) >>>78

20. Simple Interest = 30000

21. x = 1
sum = 0
while (x < = 10);
Sum = Sum + x
x = x + 1
Print (sum)