

**Chapter 1: Computer Dictionary**

**Computer Words:** Pen Drive, X-Modem, Right-click, Alt Key, Zoom, Computer, Monitor, Numeric Keypad, Task bar, Disc, Enter key, Function Key, Joystick, Virus, Laptop, Game, Hardware, Internet.

**Identify Pictures:** Pen Drive, Monitor, Numeric keypad, Laptop, Disc, Backspace key, Virus, YouTube, Start button, Internet, Joystick, Windows key.

**Missing Letters:** (a) Keyboard, (b) Zip Drive, (c) RAM, (d) Flash Drive, (e) Laptop, (f) Mouse, (g) Disc, (h) Joystick, (i) Virus, (j) Yahoo, (k) Scanner, (l) Windows, (m) Pointer, (n) Qwerty, (o) Internet, (p) Computer, (q) Abacus, (r) Button, (s) Hard Disk, (t) Enter, (u) X-Modem.

**Chapter 2: I am a Computer**

**Question Answers:** (a) A computer is an electronic device that accepts data, process that data, produces output and then stores the result. (b) A computer is an electronic machine that works on electricity and has many electronic parts. (c) Features of Computers: Speed, Accuracy, Versatile, Storage, Diligence and Automation (d) Uses of Computers: Calculations, Playing Games, Designing, Painting & Drawing, Watch Cartoons & Films, Email, Writing Letters & Applications, Internet Chatting, Internet Shopping, Listening Music.

**Fill in the Blanks:** (a) Accurate, (b) Compute, (c) Versatile, (d) Electronic Machine, (e) microseconds.

**True & False:** (a) False, (b) True, (c) False, (d) True, (e) True.

**Chapter 3: Natural & Man-Made Objects**

**Question Answers:** (a) Things that were not created by Man, but by God. (b) Things that are created by man. (c) A machine is an artificial device that run by some external source of power. (d) Run by external power like fuel, steam, electricity; Has many components; Cannot produce energy/power for itself; Can perform consistently without making mistakes; Can transform the form of energy for its requirements. (e) A machine requires an external power like fuel, steam, electricity, muscular power, etc to run.

**Fill in the Blanks:** (a) Artificial, (b) Natural, (c) Machines, (d) Air Conditioners, (e) Hand-carts, (f) Trains, (g) LCD TV, (h) power.

**(a) Examples of Natural Things:** (a) *Fruits* benefit your body immensely as they are natural sources of vitamins and minerals. (b) *Vegetables* is any part of a plant that is consumed by us as food as part of a meal. (c) *Trees* provide shade and shelter, timber for construction, fuel for cooking and heating, and fruit for food. (d) *Flowers* are not only used as decorative symbol of celebrations or occasions, but can also produce a source of food, honey, etc.

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**(b) Examples of Man-Made Things:** (a) *Cars* help us to travel from one place to another. (b) *Calculator* helps us to compute different calculations. (c) *Mobile Phones* help us talk to our friends and send SMS. (d) *Cameras* help us to take photographs.

**(c) Examples of Machines:** (a) *LCD TVs* help us viewing cartoons, films, news, etc. (b) *Air Conditioner* make our room cool in hot summers. (c) *Trains* help us to travel from one station to another station. (d) *Airplanes* help us to travel from one country to another.

**True & False:** (a) False, (b) True, (c) True, (d) False, (e) False, (f) True.

**Name the source:** Computer: *Electricity*, Mobile: *Battery*, Sewing Machine: *Electricity*, Grass Cutter: *Muscle Power*, Bus: *Diesel*, Calculator: *Battery*, Tractor: *Diesel*, Bulb: *Electricity*, Fan: *Electricity*, Bicycle: *Muscle Power*, Car: *Diesel*, Iron: *Electricity*.

### Chapter 4: Man Created Computer

**Question Answers:** (a) A computer helps man to work in a paperless computerised office, where as a man was overloaded under papers of his office. The working speed of man is comparatively is slower than computer. A man can get tired, dizzy and gets exhausted, however, the computer does not suffer from these traits. A computer gives 100% accuracy and performs consistently where as a man can be inaccurate at times. (b) A man has a thinking power and can take his own decisions, therefore adapt to infinite jobs, however, a computer is inflexible as it performs limited jobs under a set of instructions.

**True & False:** (a) False, (b) False, (c) True, (d) True, (e) False, (f) True.

### Chapter 5: Parts of a Computer

**Question Answers:** (a) A keyboard is a data entry input device that has many small buttons known as Keys. When we press a key, it is displayed on the screen, and thereby used to give our instructions to the computer. It is similar to a typewriter. (b) A mouse is a pointing device that controls the movement of the cursor or pointer on the monitor screen. On moving a mouse, the pointer on the screen moves in same direction. It generally has three buttons: Left, Middle and Right button. (c) A monitor is a display device that displays the data and instructions when they are typed on the keyboard. There are three types of monitors: Monochrome, Video Graphics Adapter, Liquid Crystal Display. (d) A CPU (Central Processing Unit) is called a brain of a computer because it comprises of Memory, Arithmetic Logic Unit (ALU) and Control Unit (CU). All data and instructions given to the computer are stored in memory by CPU. All the calculations are performed by ALU. The CPU controls the functions of all parts of a computer with the help of CU. (e) A compact disk is round in shape that has two surfaces, one is silvery/yellow data area and other is where you can paste labels. A CD can store 700 MB of information like numbers, words, pictures and movies.

**True & False:** (a) False, (b) True, (c) False, (d) False, (e) True, (f) True.

**Fill in the Blanks:** (a) Shape of a rat, (b) Cursor, (c) Mouse, (d) Input, (e) Keyboard, (f) Outputs, (g) 1.44 MB, (h) LCD.

**Appropriate Answers:** (a) Keyboard, (b) Central Processing Unit, (c) Arithmetic Logic Unit, (d) Mouse Pad, (e) Memory, (f) Video Graphic Adapter, (g) Liquid Crystal Display, (h) Compact Disc (i) Digital Video Disc.

### Chapter 6: Working of a Computer

**Question Answers:** (a) A computer transforms raw data into finished product under a set of

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continuous instructions. (b) Input Unit, Storage Unit, Processing Unit & Output Unit. (c) An input device supplies raw data to the computer. (d) A processing device takes the decision on the interpretation and manipulation of data and processes it. (e) An output device displays the processed information. (f) A storage device stores data before and after processing.

**Blanks:** (a) Computer, (b) Keyboard, (c) Hard Disk, (d) Central Processing Unit, (e) Monitor, (f) Output.

**True & False:** (a) False, (b) True, (c) True, (d) False, (e) True, (f) True.

**Appropriate Answers:** (a) Mouse, (b) Monitor, (c) Floppy, (d) CU, (e) Feeds into a Computer, (f) Displays on the monitor, (g) Useful Information.

### Chapter 7: Working of a Keyboard

**Question Answers:** (a) Alphabet keys (i.e., A-Z). (b) Number Keys (i.e., 0-9). (c) The cursor keys Left, Right, Up and Down keys move the cursor in all directions on the screen. (d) A numpad features 0-9, (+), (-), (\*), (/), (.), Numlock and Enter key. If Numlock is On, it produces corresponding digits. If Numlock is Off, keys 4, 6, 8, 2 act as Left, Right, Up and Down arrow keys. If Numlock is Off, keys 7, 9, 3, 1 act as Home, PageUp, PageDown and End keys. If Numlock is Off, keys 0 acts as Insert Key and key (.) acts as Delete Key. (e) A Delete key removes characters immediately to the right of the cursor and a Backspace key removes characters immediately to the left of the cursor. (f) Using SHIFT key, you can print a Capital Case letter, but for each character you need to press SHIFT key, however, use CAPS LOCK key once to print all Capital case letter without the use of Shift key.

**Fill in the Blanks:** (a) Buttons, (b) Typing, (c) Number, (d) Esc, (e) Left Arrow, (f) Right Arrow, (g) PageUp, (h) PageDown.

**Identify Me:** (a) Spacebar, (b) Esc, (c) Delete, (d) Backspace, (e) Home, (f) 6 Numpad Key, (g) 8 Numpad Key, (h) "." Numpad key, (i) Shift, (j) Keyboard.

**Match the Following:** 1 : Number Key, A : Shift + A Key, b : Alphabet Key, # : Shift + 3 Key, Space : Spacebar.

**Combination of Keys:** (i) SHIFT, Q Alphabet key, (ii) SHIFT, 6 Number Key, (iii) SHIFT, 4 Number Key, (iv) SHIFT, 3 Number Key, (v) SHIFT, Z Alphabet key, (vi) SHIFT, "=" key.

### Chapter 8: Application of Computers

**Question Answers:** (a) Home, Schools, Shops, Banks, Offices, Railway Stations, Airports, Hospitals, ATM. (b) All banks offer a variety of services to access your personal and business accounts regarding investments, deposits & withdrawals information stored on a computer. (c) In Banks, computers are used to maintain stocks, product ordering, price checking, bar code reading, etc. (d) In Airports, computers are used for ticket sales, pilot training, aircraft controls & design. In Railway stations, computers are used for scheduling, transferring tracks, avoiding collisions, ticketing. (e) In Homes, computers are used for budgeting, gaming, work from home, entertainment, information, chatting, etc.

**Fill in the Blanks:** (a) Computers, (b) Add, Subtract, (c) Shops, (d) Railways/Air Travels, (e) Diseases, (f) Super computers, (g) Humans.

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**Class 2**  
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### Chapter 1: Types of Computers

**Question Answers:** (a) Analog computers are used to measure physical quantities e.g. ampere, voltage, pressure whereas digital computers involve the use of signals represented by digits in its working, e.g. calculator, mobile, digital watch. (b) A hybrid computer comprises of all the features of an analog and digital computer, e.g. ECG machine. (c) General Purpose Computers and Special Purpose Computers. (d) The computers that can be worked on by placing them on your lap, therefore called as Laptop Computers. However, the computers that can be working on by placing them on your palm (hand) are called as Palmtop Computers. (e) These are very large machines with speed of almost 100 times the speed of a mainframe computer. They are used for highly calculation-intensive tasks such as weather forecasting, climate research, etc. The examples of super computers are CRAY-2, PARAM, etc.

**Fill in the Blanks:** (a) Analog, (b) Laptop, (c) Special Purpose Computer, (d) Palmtop, (e) Personal Computer, (f) 8080, 8088, (g) microprocessor.

**True & False:** (a) True, (b) False, (c) True, (d) False, (e) False, (f) True.

**Match the Following:** IBM BLUE GENE/P : Super Computer, VAX 8300 : Mini Computer, UNIVAC 1190 : Mainframe Computer, PARAM : Indian Computer, Zilog Z-80 : Micro Computer.

### Chapter 2: Working of a Computer

**Question Answers:** (a) A computer works on a set of instructions. The data is fed as an INPUT into the computer, STORED and further PROCESSED under the instructions to produce OUTPUT. (b) Primary memory unit is the primary storage unit of a computer. It is of two types: READ ONLY MEMORY & RANDOM ACCESS MEMORY. (c) The data stored in ROM is not deleted even when you turn off the computer, however the data is lost when you turn off the computer. (d) You can only write once on CDROM, however on a CDRW you can write and rewrite on the disk as many times you want. (e) Since the computer's memory is limited in size therefore backing stores are used to retail the data on permanent basis. These storing device are known as secondary storage units. E.g. Hard disks, Floppy disks, Compact disks, etc. (f) The processing unit accepts instructions from a program, interprets them to perform different functions with the help of its components. These are Control Unit, Arithmetic Logic Unit and Memory Unit.

**Fill in the Blanks:** (a) Input, (b) Computer Storage, (c) Processing Unit, (d) Microprocessor, (e) Hard Disk.

**True & False:** (a) False, (b) True, (c) False, (d) True, (e) True, (f) True, (g) False, (h) False.

**Match the Following:** 1.2 MB : 5.25" Floppy Disk, 702 MB : CD ROM Disk, 650 MB : CDRW Disk, 4.7 to 17 GB : DVD Disk, 1.44 MB : 3.5" Floppy Disk.

**Examples:** (a) Input Unit: Mouse, Keyboard, (b) Output Unit : Monitor, Printer, (c) Storage Unit: CDROM, Floppy Disk, (d) Floppy Disk: 5.25" Floppy, 3.5" Floppy, (e) CDROM: 702 MB CDROM, 650 MB CDRW.

### Chapter 3: Computer Peripherals

**Question Answers:** (a) The devices used for input or feed data and instructions to the computer are Input devices. E.g., Keyboard, Mouse, Scanner, Light Pen, Joystick, Digital Camerals, Speech Recognition. (b) The devices that are used for generation of final formatted information of data processed by the computer are Output devices. E.g. Dot Matrix Printer,

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Inkjet printer, Laserjet Printer, Visual Display Unit, Liquid Crystal Display, Light Emitting Diode Display, Plotter. (c) The devices that are used for storing relevant data on any auxiliary device that can be retrieved later for further processing are Secondary Storage devices. E.g. Magnetic Tape, Floppy disks, Hard disks, Optical disks, Flash memory, Pen drives.

**Fill in the Blanks:** (a) Keyboard, (b) Mouse, (c) Joystick, (d) Magnetic Tape, (e) Hard Disk, (f) Optical, (g) Optical Disk, (h) Hard Disk, (i) Dot-matrix, (j) Inkjet, (k) Visual Display Unit, (l) Liquid Crystals.

**Appropriate Answers:** (a) Keyboard, (b) Compact Disk Read-Only, (c) Pen drive, (d) Mouse Pad, (e) Mouse, (f) Inkjet Printers, (g) Light Emitting Diode.

### Chapter 4: Using a Mouse

**Question Answers:** (a) A mouse is a pointing device that controls the movement of the cursor or point on display screen. (b) The mouse can be connected to the computer using a USB (Universal Serial Bus) port, PS/2 (Personal System/2) port or a Serial port. (c) For holding a mouse, you need to rest your palm on back of the mouse. Place your hand in such a way that your index finger is on the left mouse button and your middle finger is on the right mouse button. (d) It refers to any operation in which the mouse button is held down while the mouse is being moved. It is used to move an object across display screen. You usually select the object with a mouse button and then move the mouse while keeping the mouse button pressed down. (e) Three types: Grab pointer, I-Beam pointer, Selection pointer. (f) It is the act of sliding a horizontal or vertical presentation of content, such as text, drawings or images across a screen.

**Fill in the Blanks:** (a) Pointing device, (b) Left, (c) Dragging, (d) Double click, (e) Double click, (f) Left Click twice.

**True & False:** (a) True, (b) False, (c) False, (d) True, (e) False, (f) True.

**Match the Following:** Left button : Select an object, Right button : Context Menu, Scrolling : Crawls the screen, Double-click : Opens a folder, Mechanical Mouse : Rubber or metallic ball.

**Identify me:** (a) MOUSE, (b) MOUSE PAD, (c) OPTICAL, (d) POINTER, (e) LEFT, (f) SINGLE.

### Chapter 5: Working on WordPad

**Question Answers:** (a) A wordpad is a free rich text editor included with MS-Windows, that is capable of writing text words, sentences, paragraphs, printing formatted documents with different colourful designs and patterns. (b) It can format and print text, including fonts, bold, italic, etc., to produce notes, paragraphs and letters. (c) Click on start button, click on All Programs menu -> Accessories and then click Wordpad. (d) Copy-and-paste refers to a method of reproducing text or other data from a source to destination. Copy (in windows) is usually done by the use of CTRL + C keys, which takes the selected text or data to the Clipboard (Memory Storage Area). Paste (in windows) is done by the use of CTRL + V keys, which takes the copied text or data from Clipboard to the new destination. (e) Cut-and-paste refers to a method of moving text or other data from a source to destination. Cut (in windows) is usually done by the use of CTRL + X keys, which moves the selected text or data to the Clipboard (Memory Storage Area). Paste (in windows) is done by the use of CTRL + V keys, which moves the text or data from Clipboard to the new destination. (f) Copying text refers to reproducing text from the source to destination, however, moving text removes the text from

the source and places it on destination.

**Fill in the Blanks:** (a) Wordpad, (b) Cursor, (c) Copy-and-paste, (d) Cut-and-paste, (e) CTRL+X, (f) CTRL+C, (g) CTRL+V.

**True & False:** (a) True, (b) False, (c) True, (d) False, (e) True, (f) False.

**Match the Following:** CTRL+O : Opens a document, CTRL+C : Copies a part or whole document, CTRL+S : Saves the document, CTRL+V : Pastes a part or whole document, CTRL+X : Cuts a part or whole document.

**Jumbled Words:** (a) PASTE, (b) WORDPAD, (c) COPY, (d) DOCUMENT, (e) TYPING, (f) SELECT.

### Chapter 6: Learning Calculations

**Question Answers:** (a) A calculator is an electronic device used to perform basic operations of arithmetic. A computer also has a calculator that can add, subtract, and perform other calculations. (b) It can perform basic arithmetic operations, scientific logarithms, factorials and also convert numbers to other number systems. (c) Type a number, then click on the operator symbol to perform operation, and then add the next number. Repeat the procedure to add further operations. To produce the result, click on (=) key. (d) 'C' clears the last number typed, whereas 'CE' clears the last calculation. (e) A keypad of a calculator contains the digits from 0 to 9, along with four arithmetic operators, decimal point and other more advanced function keys. (f) An operator is a symbol or character indicating an operator that acts on one or more elements. It can '+' (Addition), '-' (Subtraction), '\*' (Multiplication) and '/' (Division).

**Fill in the Blanks:** (a) Calculator, (b) Number, (c) MS Key, (d) MR Key, (e) M+ Key, (f) Operator, (g) MC Key.

**Functions:** (a) Deletes the last digit of the displayed number, (b) Clears the last calculation, (c) Clears the last number typed, (d) Recalls the number stored in the memory, (e) Stores a number in the calculator's memory, (f) Calculates the Percentage, (g) Calculates the Square Root.

**Perform Calculations:** (a) 272, (b) 1845, (c) 160, (d) 10, (e) 141, (f) 50, (g) 756, (h) 268, (i) 320, (j) 12, (k) 411, (l) 72, (m) 666, (n) 2890, (o) 1240, (p) 39, (q) 452, (r) 210.

### Chapter 7: Using Paint to Draw

**Question Answers:** (a) The white area acts like a blank paper on which you can draw different pictures. (b) The toolbox contains various tools to select, erase, choose color, drawing forms like pencil, brushes, lines, curves, rectangles or polygons, ellipses to create a picture. (c) It is a set of color selection box from which you can select different colors for your drawings. (d) To open a paint file, click on the File menu, select Open and from the Open dialog box choose the file name and then click on Open button. (e) To save a paint file, click on File menu, click on Save menu option. (f) Paint is a basic computer graphics program installed in windows operating system. It allows yours to paint a drawing using full array of colors with different pen and brush styles available in tool box. The files are saved in GIF, Bitmap (BMP), PNG, TIFF or JPEG format.

**Identify the tool:** (a) Eraser, (b) Ellipse, (c) Rectangle, (d) Text, (e) Rounded Rectangle, (f) Fill with Color, (g) Select.

**True & False:** (a) False, (b) False, (c) True, (d) False, (e) False, (f) True.

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**Match the Following:** Eraser Tool, Fill with Colour Tool, Pick Colour Tool, Zoom Tool, Air Brush Tool.

**Jumbled Words:** (a) BRUSH, (b) PENCIL, (c) TEXT, (d) ELLIPSE, (e) ERASER, (f) SELECT.

### Chapter 8: Drawing Figures with LOGO

**Question Answers:** (a) LOGO is a simple computer language to do a particular work or to draw a figure. Its full form is Language of Graphic Oriented. (b) LOGO has a pen that looks like a triangle. This pen is called a Turtle. (c) The input box is the area where you can edit text or type command and execute it. (d) The Recall list box records all output including what you type in Input box. If the list of commands goes out of the view, you can click on the scroll bar to view the commands.

**Fill in the Blanks:** (a) Input, (b) Execute, (c) Turtle, (d) Reset, (e) HT, (f) Home.

**Command Sequences:** (a) RT 90, FD 60, RT 90, FD 60. (b) LT 90, RT 90, FD 40. (c) BK 60, FD 30. (d) FD 50, FD 50, RT 90, FD 50

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**Class 3**  
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### Chapter 1: Introduction to Computers

**Question Answers:** (i) A computer is an electronic device that accepts data, process that data, produces output and then stores the result. (ii) A computer is used as a data processor to produce information from raw data. (iii) Hospitals, Airports, Railway Stations, Retail Shops. (iv) (a) (1) Computer is faster than calculator (2) Computer is bigger in size than a calculator. (3) Computer has big screen than calculator (4) Computer has large memory as compared to a calculator. (5) You can type letters & number both in computers, however, in calculators you can type only the numbers. (iv) (b) (1) Speed of computers is fast as compared to human being. (2) A computer does not get tired and can perform continuously whereas a human being gets tired and requires rest. (3) A computer can store a large amount of data, however, a human being has very small memory. (4) A computer works with great accuracy, however, a human being can be inaccurate and make mistakes. (5) A computer does not suffer from human traits of feelings and emotions. (6) A computer does not have a thinking power, however a human being possesses thinking power. (v) Speed: A computer can perform difficult calculators and other processes at a speed much faster than we can do. It is measured in microseconds. Storage: A computer is capable of storing large quantity of data. (vi) A computer does not posses any brains of its own and cannot do anything without our commands. Therefore, it is called a dumb machine.

**Fill in the Blanks:** (i) Electronic, (ii) Keyboard, (iii) Data, (iv) Information, (v) Computer, (vi) numbers.

**True & False:** (i) False, (ii) True, (iii) False, (iv) True, (v) False, (vi) True.

### Chapter 2: Beginning of Computers

**Question Answers:** (i) In stone age, people used their fingers as counting tools. (ii) There were two kinds of tally sticks: (a) Single Tally: It is an elongated piece of bone, ivory, wood or stone which is marked with a system of lines. (b) Split Tally: It is a technique which became



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common in medieval Europe which was constantly short of coins. (iii) Heaven and Earth. (iv) (a) Blaise Pascal: He invented Pascaline, an adding machine that conducted addition and subtraction, but calculated division by repeated subtraction & multiplication by repeated addition. (iv) (b) Gottfried Von Leibnitz: He modified Pascaline to carry out multiplication and division directly. (iv) (c) Lady Ada Lovelace: She was considered the first programmer as she developed a special number system of two digits, known as binary number system. (iv) (d) George Boole: He developed a form of symbolic logic known as Boolean Algebra. (v) John Napier invented a device comprising of a set of eleven rods called Napier Bones. It was a three dimensional square, with four rods imprinted on each one. A rod's surface comprises 9 squares and each square comprises two halves divided by a diagonal line. The first square of each rod holds a single digit. The other square holds this number's double, triple, quadruple and so on until the last square contains number times the number in the top square. (vi) Herman Hollerith developed a mechanical tabulator based on punched cards to rapidly tabulate statistics from millions of pieces of data. (vii) Howard H. Aiken devised the first electro mechanical Automatic Sequence Controlled Calculator known as ASCC, that was later named as Mark-I. It was fully automatic and reliable, no manual operations were required. This advent of Mark-I is considered to be the beginning of the era of the modern computer.

**Fill in the Blanks:** (i) Barter System, (ii) ABAC, ABAX, (iii) Charles Babbage, (iv) George Boole, (v) Howard H. Aiken, (vi) Mark-I.

**True & False:** (i) False, (ii) False, (iii) False, (iv) True, (v) True, (vi) False.

**Match the Following:** Tabulating Machine : Herman Hollerith, Mark-I : Howard Aiken, Boolean Algebra : George Boole, Binary Number System : Lady Ada Lovelace, Analytical Engine : Charles Babbage, Pascaline : Blaise Pascal, Napier Rods : John Napier.

**Contributions:** (i) Gottfried Leibnitz : Leibnitz Calculating Machine (ii) Joseph Jacquard : Jacquard's Weaving Loom (iii) Howard Aiken : Mark-I (iv) Charles Babbage : Difference Engine & Analytical Engine

### Chapter 3: Generations of Computers

**Question Answers:** (i) With passage of time, the developments that took place in computer industry are divided into five different stages, which are known as generations of computers. (ii) ENIAC weighed 30 tons and was 8 feet by 3 feet by 100 feet and occupied approx. 1800 square feet space. (iii) An integrated circuit is a single component containing a number of transistors. These are smaller, cheaper and more reliable than a single transistor. (iv) (a) ENIAC : 1946, John Eckert and John Mauchly (iv) (b) UNIVAC : 1951, John Eckert and John Mauchly (iv) (c) EDVAC : 1949, John Eckert and John Mauchly (iv) (d) EDSAC : 1948, Maurice Wilkes. (v) The computers with large storage capacities were made to be able to think and make decisions. These were known as Knowledge Information Processing Systems (KIPS). (vi) Electronic valves are vacuum tubes that consist of electrodes in a vacuum in an insulating heat-resistant envelope which is usually glass tubular. However, a Transistor is a semiconductor device used to amplify and switch electronic signals. It is made of solid piece of semi-conductor material. (vii) The fourth generation computers were based on chips having thousands of transistors placed on it, which are known as Large Scale Integrated (LSI) Circuits. However, the fifth generation used many LSI combined on a single chip which was known as Very Large Scale Integrated (VLSI) Circuits.

**Fill in the Blanks:** (i) Electronic Valves, (ii) ENIAC, (iii) EDVAC, (iv) Memory device, (v)



VLSI, (vi) Sharp PC1211.

**Full Form:** (i) ENIAC : Electronic Numerical Integrator and Computer, (ii) UNIVAC : Universal Automatic Computer, (iii) EDVAC : Electronic Discrete Variable Automatic Computer, (iv) EDSAC : Electronic Delay Storage Automatic Computer, (v) KIPS : Knowledge Information Processing Systems.

**Match the Following:** KIPS : 5th Generation Computers, Transistors : 2nd Generation Computers, Vacuum Tubes : 1st Generation Computers, Integrated Circuits : 3rd Generation Computers, LSI : 4th Generation Computers.

**Names of Computers:** (i) 1st Generation : ENIAC, EDVAC, EDSAC, UNIVAC, (ii) 2nd Generation : IBM-1620, IBM-7094, (iii) 3rd Generation : IBM 370/168, ICL-2900, ICL-1900 Series, (iv) 4th Generation : Apple 1 & II, DCM Spectrum-7, IBM PC, Sinclair ZX-80, 81, Sharp PC1211, (v) 5th Generation : Artificial Intelligent computers can be broken into five distinct categories: games playing, robotics, expert systems, neural networks, and natural language.

#### Chapter 4: Hardware and Software

**Question Answers:** (i) The physical components of a computer is called Hardware. (ii) A set of computer programs, procedures and documents related to the effective operation of a computer system in called Software. (iii) The instructions given to the computer to carry out the necessary operations is known as Processing. (iv) The computer program designed to perform certain type of tasks such as payroll, inventory, word processing etc, are known as Application Software. It is of two types: General Purpose and Special Purpose computers. (v) A system software is a set of basic functions that are necessary to operate a computer. language is of two types: Language System Software and Operating Systems. (vi) An application software focuses on performing certain type of tasks on a running computer, however, a system software focuses on basic operations of a computer. (vii) A utility program is designed to perform maintenance work on the computer system. These can be utilities related to storage backup program, disk and file recovery program, etc. (viii) The outer surface of computer that can seen without dismantling a computer is known as Skinware. (ix) The general term to all the people who are either working in computer industry or related to the computer industry as known as Humanware. (x) A package is a computer application that consists of one or more programs that perform a particular type of work such as business application.

**Fill in the Blanks:** (i) Hardware, (ii) Software, (iii) Application Software, (iv) Assembler, (v) Package, (vi) Utility, (vii) System Analysts.

**True & False:** (i) False, (ii) False, (iii) False, (iv) False, (v) True, (vi) True.

**Match the Following:** MS-Word : Package, Disk Defragmenter : Utility, Windows 7 : Operating System, Monitor : Skinware, Hard Disk : Hardware.

#### Chapter 5 : Computer Memory

**Question Answers:** (i) Memory is a storage, where once you store information, it will always remain in its memory. You can ask for the information after many days, months and even years. The memory is of two types: Analog Memory and Semiconductor Memory. Analog memory was used in computers during 1960s. Semiconductor memory is static, lighter, cheaper than magnetic core analog memories. (ii) Random Access Memory is a volatile

read/write memory. The information can be written into and read from a RAM. It is of two types: Static RAM (SRAM) and Dynamic RAM (DRAM). (iii) Read Only Memory (ROM) is a permanent type of memory of which contents are not lost when power supply is switched off. The user cannot write into a ROM. Its contents are written into at the manufacturing stage. It is of two types: Programmable ROM (PROM) and Erasable Programmable ROM (EPROM). (iv) In PROM, the information can be recorded by a PROM programmer only. (v) The EPROM can be erased and reprogrammed to record information use EPROM programmer. (vi) A SRAM retains stored information as long as the power supply is on. (vii) A DRAM loses their stored information in a very short time even when the power supply is on. (ix) The memory of a computer is measured in Bits, Nibbles, Bytes, Kilobytes, Megabytes, Gigabytes and Terabytes.

**Fill in the Blanks:** (i) Analog Memory, (ii) RAM, (iii) SRAM, (iv) EEPROM, (v) Bit, (vi) Byte, (vii) 1 GB.

**True & False:** (i) False, (ii) False, (iii) False, (iv) True, (v) True, (vi) True.

### Chapter 6: Windows Operating System

**Question Answers:** (i) An operating system acts on the orders given to it by us and instructs the computer to perform all the jobs for us. (ii) User interface is a method or a style of communication between the end user and the computer system. It is of two types: (a) Character User Interface: In CUI, a user has to type all the commands through the keyboard. Eg. MS-DOS. (b) Graphical User Interface: In GUI, the system stresses on graphical entities which represent system's resources and a set of commands which initiate action and interactions with the user. Eg. Windows, Macintosh, etc. (iii) Title Bar, Minimize button, Maximize/Restore button, Close button, Application icon, Menu bar, Workspace, Scroll bar, Corners, Borders, Document window. (iv) (a) Maximize button maximizes the window to full screen on a single click and the Restore button restores it back to the original position on another click. (iv) (b) A spinner is a numerical text box where you can write numerical values or click on the down arrow to decrement and the upper arrow to increment the numerical value stored in this box. However, a slider is a graphical adjustment control used to change the parameters such as speed or volume controls. (iv) (c) An application window is a running application that opens various documents however, a document window contains the first page of a document that is displayed in its own window. (iv) (d) List box is a rectangular region that displays a list of all the available choices for a particular option, however, a text box is a rectangular box which is used to fetch some information from the user usually in the text mode. (v) Maximize, Restore, Minimize and Close button. (vi) My Computer, My Network Places, Recycle Bin, My Documents. (vi) (a) Check box is a box control along with a label attached to it, that can either be ticked on or ticked off. (vi) (b) Radio buttons are circular buttons with each of them being labelled with a respective option. Click any one option to fill the blank radio button. Only one option can be activated at a time. (vi) (c) Sliders are a graphical adjustment control used to change the parameters such as speed or volume controls. (vi) (d) A window is a rectangular area surrounded by a resizable frame with a title at the top. (vi) (e) Maximize button maximizes the window to full screen on a single click and the Minimize button minimizes the current application window to the task bar. (vi) (f) A taskbar is a bar placed on bottom of your desktop that includes a start button. All the applications currently running appear on this bar. (vii) Press any of the letters underlined in that menu option along with the ALT key. (viii) A tiling window manager is a window manager with an organization of the screen into mutually

non-overlapping frames. All the document windows in an application are displayed on screen. However, Cascade windows is an arrangement of windows such that they overlap one another. Typically, the title bar remains visible so that you can always see which windows are open. Cascading windows are also called overlaid windows. (x) (a) CTRL + N : New Document (x) (b) CTRL + O : Opening the existing document (x) (c) CTRL + P : Printing a document (x) (d) CTRL + C : Copying a part of a document (x) (e) CTRL + V : Pasting anything into a document (x) (f) ALT + F4 Closing the application or windows.

**Fill in the Blanks:** (i) Operating System, (ii) menu, (iii) Menu, (iv) Taskbar, (v) Title bar, (vi) Desktop.

**True & False:** (i) False, (ii) True, (iii) True, (iv) True, (v) False, (vi) True.

### Chapter 7: Drawing Tools in Paint

**Question Answers:** (i) The toolbox contains various tools to select, erase, choose color, drawing forms like pencil, brushes, lines, curves, rectangles or polygons, ellipses to create a picture. (ii) After selecting a rectangular area or free-form select area, click on Image menu and click on Invert option. (iii) Flip option allows you flip the image by 180 degrees horizontally or vertically, however Rotate option allows you rotate the image by specific degrees (90, 180, 270). (iv) Magnifier tool is used to enlarge the view of the drawing. The drawing can be magnified upto twice, six times or eight times larger by selecting the choices 2x, 6x and 8x respectively. (v) The text tool is used to enter text into an image. (vi) Eraser tool is used to erase an area of the drawing. On clicking the eraser tool, the shape of the cursor changes. Select the size of the eraser from the eraser size box. Press the left mouse button on the area and drag it over the area. (vii) After selecting a rectangular area or free-form select area, click on Image menu and click on Invert option. (viii) Airbrush tool is used to spray colors in the drawings. On clicking on airbrush tool, the mouse pointer changes to the spraying bottle icon. Select the size of the spray from the options available. Select the color to be sprayed from the color box. Move the mouse pointer to the drawing area and click the left mouse button to spray the color. Release the mouse button when done.

**Identify the tool:** (i) Eraser, (ii) Ellipse, (iii) Rectangle, (iv) Text, (v) Rounded Rectangle, (vi) Fill with Color, (vii) Image -> Flip/Rotate.

**True & False:** (a) False, (b) False, (c) True, (d) False, (e) True, (f) False.

**Match the Following:** Eraser Tool, Fill with Colour Tool, Pick Colour Tool, Zoom Tool, Air Brush Tool.

**Jumbled Words:** (a) BRUSH, (b) PENCIL, (c) TEXT, (d) ELLIPSE, (e) ERASER, (f) SELECT.

### Chapter 8: Drawing Figures with LOGO

**Question Answers:** (i) The toolbox contains various tools to select, erase, choose color, drawing forms like pencil, brushes, lines, curves, rectangles or polygons, ellipses to create a picture. (ii) In order to draw a figure where the turtle has to be lifted and then put down again, we use pen commands. (iii) The various pen commands are: PU (Pen Up), PD (Pen Down), PE (Pen Erase) and REPEAT (Repetitive Work). (iv) In order to draw a shape with definite number of sides, the number sides and number of angles should be known. For eg. a square has four equal sides and four equal angles, a triangle has three equal sides and three equal angles, a pentagon has five equal sides and five equal angles. (v) PE command is used to erase lines drawn by the turtle pen. If by mistake any wrong lines are drawn, it can be erased

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using this command. (vi) REPEAT command is used to perform repetitive tasks. A repeat action is performed again and again in the same manner. The syntax is REPEAT [NO OF TIMES] [SET OF REPETITIVE COMMANDS]. (vii) REPEAT 2 [FD 10 RT 90 FD 30 RT 90] Enter key. (viii) For drawing circles or arcs, 360 degrees is nothing but the total count of turns of 1 degree each. Now if we move one step forward and then turn one degree right or left, we can draw a circle. The REPEAT command is therefore used here as REPEAT 360 [FD 1 RT 1].

**Fill in the Blanks:** (i) HOME, (ii) HT, (iii) ST, (iv) PE, (v) REPEAT, (vi) Repetitive.

**Command Actions:** (i) HOME: The turtle moves to the center of the screen. (ii) PE: This command erases the lines drawn by the pen. (iii) PU: This command picks up the turtle pen from the screen. (iv) PD: This command puts the pen back on the screen. (v) FD: The turtle moves in forward direction. (vi) RT: The turtle turns the head towards right direction. (vii) LT: The turtle turns the head towards left direction.

**Command for figures:** (i) TRIANGLE: REPEAT 3 [FD 50 RT 120]. (ii) RECTANGLE: REPEAT 2 [FD 30 RIGHT 90 FD 60 RIGHT 90] (iii) HEXAGON: REPEAT 6 [FD 50 RT 60] (iv) SQUARE: REPEAT 4 [FD 50 RT 90] (v) CIRCLE: REPEAT 360 [FD 1 RT 1] (vi) HEPTAGON: REPEAT 7 [FD 50 RT 360/7] (vii) NANOGON: REPEAT 9 [FD 50 RT 360/9]

**Jumbled Words:** (i) CIRCLE, (ii) PENCIL, (iii) TEXT, (iv) REPEAT, (v) TRIANGLE, (vi) HEPTAGON (v) NANOGON (vi) SQUARE (vii) HEXAGON.

### Chapter 9: Computer Languages

**Question Answers:** (i) The binary number system represents numeric values using two symbols: 0 and 1. (ii) The process of converting a program written in high level or low level language into machine code to make the computer understand and perform the required operations is known as translation. (iii) Low level machine language is written using binary digits and computer understands this language directly, so no need of translation. Low level assembly language contains the same instructions as machine language, but the instructions and variables have names instead of being just numbers. (iv) The high level languages are easier to read, write and maintain. (v) Machine language as it is written in the binary language i.e. a language of 0's and 1's. (vi) A program in assembly language is known as source code. It has to be translated into machine language. The program that converts the source code into the machine language code is known as Assembler.

**Fill in the Blanks:** (i) Low, (ii) Program, (iii) Combination, (iv) Source Code, (v) Compilation, (vi) Assembler.

**Full Form:** (i) KB : Kilobyte, (ii) MB : Megabyte, (iii) GB : Gigabyte, (iv) TB : Terabyte, (v) SQL : Structured Query Language, (vi) 3GL: Third Generation Language, (vii) 4GL: Fourth Generation Language.

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**Class 4**  
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### Chapter 1: Learning Number Systems

**Question Answers:** (i) Computers store every data and instruction in i.e. 0's and 1's. The smallest fundamental unit of a computer's binary data is a bit. The 0's and 1's represent the Off and On, (Or (False and True) or (No and Yes)) states respectively. (ii) A computer is not

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able to understand the terms multiplication or division. It works only on two principles: addition and subtraction. To solve  $15 \times 8 = 120$ , ALU adds number 15 eight times and displays the result 120 on the screen. To solve  $77 / 7 = 11$ , ALU subtracts number 7 from the number 77 eleven times till it achieves a 0 and displays the result 11 on the screen. (iii) An international coding facility is used for characters, numbers, etc. It is known American Standard Code for Information Interchange (ASCII) published by ANSI (American National Standard Institute). Characters A-Z are given by 65-90 ASCII Codes. Characters a-z are given by 97-112 ASCII Codes. Similarly a total of 256 characters are represented in ASCII. (iv) The base of a number system is the number of different symbols that can appear in one position of a number. The binary number system uses two digits (0,1) therefore has a base of 2. The octal number system uses eight digits (0-7) therefore has a base of 8. The decimal number system uses ten digits (0-9) therefore has a base of 10. The hexadecimal number system uses sixteen digits (0-9, A-F) therefore has a base of 16. (v) The base of a decimal number system is 10. It can have any of the ten digits from 0 to 9. Any decimal can be broken into columns. From right to left, the first column is ones and second one is tens, third one is hundreds, fourth one is thousands, and so on. (vi) A hexadecimal number system has a base of 16. The sixteen digits are 0 to 9 numerical digits and alphabets A to F representing 10 to 15 respectively. Any hexadecimal number can be broken into columns. Each column is a placeholder. Right to left, the first column is 1's column, second one is 16's column, third one is 256's column, fourth one is 4096's column and so on. Every column from right to left we multiply the previous column with 16 to achieve the next column. (vii) An octal number system has a base of 8. The eight digits can express all the numbers. Any octal number can be broken into columns. Each column is a placeholder. In octal number system from right to left, the first column is 1's column, second one is 8's column, third one is 64's column, fourth one is 512's column and so on. You can observe that for every column from right to left we multiply the previous column with 8 to achieve the next column. (viii) A computer works on binary number system. A computer recognizes only two states, the presence of an electrical current or the absence of an electrical current. In other words, On or Off. The binary number system is ideal for representing these two states because it consists of only two digits. The digits are 0 and 1. any number can be broken into columns. Each column is a placeholder. From right to left, the first column is 1's column, second column is 2's column, third column is 4's column, fourth column is 8's column, fifth column is 16's column and so on. You can observe that for every column from right to left we multiply the previous column with 2 to achieve the next column. (ix) Conversion of a decimal number to binary representation can be done by repeatedly dividing the number by 2. Conversion of a decimal number to octal representation can be done by repeatedly dividing the number by 8. Conversion of a decimal number to hexadecimal representation can be done by repeatedly dividing the number by 16.

**Fill in the Blanks:** (i) Bit, (ii) 0,1, (iii) 4, (iv) 8, (v) KB, (vi) Hexadecimal Numbers, (vii) Octal Numbers.

**ASCII Codes:** (i) 90, (ii) 109, (iii) 121, (iv) 80, (v) 81, (vi) 85, (vii) 83, (viii) 119, (ix) 116, (x) 102.

**Match the Following:** A=65 : ASCII, 4 Bits : Nibble, BF8 : Hexadecimal Number, 10011101 : Binary Number System, Base 8 : Octal Number System.

**Convert Binary to Decimal Number:** (a) 54, (b) 53, (c) 29, (d) 29, (e) 45, (f) 41, (g) 43, (h) 37, (i) 43, (j) 39.

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**Convert Decimal to Binary Number:** (a) 10101110, (b) 1110100, (c) 10010101, (d) 1011001, (e) 1111010110, (f) 1001001011, (g) 11000111, (h) 110000001, (i) 1110001, (j) 1010000.

**Calculate the result of Binary Operations:** (a) 1001101, (b) 10000111, (c) 11011, (d) 10001011, (e) 1001100, (f) 1001001, (g) 100100, (h) 1100100, (i) 1000010, (j) 1110000.

**Convert Octal to Decimal Number:** (a) 142, (b) 122, (c) 306, (d) 252, (e) 405, (f) 159, (g) 497, (h) 486.

**Convert Hexadecimal to Decimal Number:** (a) 707, (b) 3467, (c) 2450, (d) 3507, (e) 3794, (f) 748, (g) 2760, (h) 3538.

**Convert Decimal to Octal & Hexadecimal Number:** (a) 762, 1F2, (b) 1425, 315, (c) 1665, 3B5, (d) 614, 18C, (e) 1574, 37C, (f) 1014, 20C, (g) 1713, 3CB, (h) 1460, 330.

### Chapter 2: Solving a Problem using Computers

**Question Answers:** (i) A program is a combined set of logical instructions on which the computer acts in order to solve a given problem. (ii) Initial Input data, Instructions to be performed and required Results. (iii) An instruction is simply a command given to the computer. (iv) (a) The mistakes in a computer program are called bugs (iv) (b) An instruction is simply a command given to the computer. (iv) (c) An algorithm displayed in a pictorial form is known as flowchart. (iv) (d) An algorithm displayed in a normal english sentences is known as Pseudocode. (v) An instruction is simply a single command given to the computer. However, a program is a combined set of instructions given to the computer. (vi) Steps involved in solving a problem: (a) Define the problem (b) Design a mathematical model (c) List down the steps on paper (d) Write a computer program (e) Test your program. (vii) 1. Boil two cups of water for serving two people. 2. Add an inch of ginger for two cups of tea, but do not add it yet to the water. 3. Add sugar. 4. Add grated ginger. 5. Add tea leaves. 6. Add as much milk you wold like in your tea. 7. Strain the tea. 8. Finished.

**Fill in the Blanks:** (i) Instruction, (ii) Program, (iii) Problem definition, (iv) Bugs, (v) Algorithm, (vi) Flowchart.

**True & False:** (i) False, (ii) False, (iii) False, (iv) True, (v) True, (vi) True.

### Chapter 3: Internal Parts of a Computer

**Question Answers:** (i) Central Processing Unit. (ii) A motherboard is a silicon circuit board used in personal computer. It has different slots to provide connectivity to CPU, graphics card, sound card, hard disk controller, memory, etc. (iii) A hard disk is a non-volatile data storage device that stores data on a magnetic surface layered onto hard disk platters. (iv) (a) An ATX cabinet is used where we have sufficient spaces to place the CPU cabinet and desktop cabinet is box type cabinet. (iv) (b) A PCI slot is the provided on motherboards for adding new PCI cards such as internal modem card, sound card, etc., where as an AGP slot is a used for adding external AGP display card. (iv) (c) A floppy disk is a data storage device composed of ring of thin, flexible magnetic storage medium usually of two sizes: 1.22 MB or 1.44 MB. However, the hard disk is a non-volatile data storage device that stores data on a magnetic surface layered onto hard disk platters and is permanently stored in computer with a size of 80 GB, 120 GB, 160 GB or 1 TB or 2 TB. (iv) (d) A CDR has the capacity of 700 MB where as a DVD has a capacity of 4.7 GB. (iv) (e) An internal modem card is fixed inside the computer cabinet on a PCI slot, however, an external modem is attached to a computer by a data cable to the COM port. (iv) (f) The port used to attach an input device (like Keyboard,



Mouse) are known as Input ports. For e.g. PS2 Mouse Port, PS2 keyboard port. The port used to attach an output device (like printer, Sound mic) are known as output ports. For e.g. Parallel or USB Printer ports, Sound port. (v) An input device supplies raw data to the computer whereas an output device displays the processed information. (vi) Three: Mini-Tower (Vertical), ATX (Vertical Large), Desktop (Horizontal).

**Fill in the Blanks:** (i) CPU, (ii) Motherboard, (iii) SMPS, (iv) Processor fan, (v) CDROM, (vi) Graphics card, (vii) Internal modem, (viii) Seagate, Samsung, (ix) RAM, (x) CD.

**Identify the devices:** (i) CPU : Central Processing Unit, (ii) MAINBOARD, (iii) SMPS : Switch Mode Power Supply, (iv) RAM : Random Access Memory, (v) MB : Megabyte, (vi) KB : Kilobyte, (vii) Video Card (viii) DVDs (ix) ALU : Arithmetic and Logic Unit (x) Hard Disk.

**True & False:** (i) False, (ii) False, (iii) True, (iv) True, (v) True, (vi) False, (vii) True, (viii) True, (ix) False (x) False.

**Jumbled Words:** (i) MOTHERBOARD, (ii) MOUSE, (iii) BATTERY, (iv) FLOPPY, (v) PARALLEL, (vi) MODEM.

**Match the Following:** RAM : Main Memory, 1.44 MB : Floppy Disk, 700 MB : Compact Disk, 4.7 GB : DVD, 160 GB : Hard Disk, ALU : Processor.

**Identify the figures:** (i) SMPS : Power Supply of the computer, (ii) Modem : To connect to Internet, (iii) Processor Fan : Required to cool the processor for successful working, (iv) Floppy Disk : Medium to read the 1.44 MB floppy disks.

#### **Chapter 4: Working on Windows**

**Question Answers:** (i) A control panel is a special tool of windows which allows users to view and manipulate basic system settings and controls, such as adding or removing hardware and software, user accounts. (ii) Using Programs and Features. (iii) Using Programs and Features, click on Turn Windows features on or off. (iv) (a) The classic view consists of shortcuts to the various control panel applets, usually without any description, however, the category view consists of categories, which display control panel applets related to category. (iv) (b) The speed of movement of the mouse pointer on screen is pointer movement speed however, double click speed is the speed of successive left clicking of the mouse button. (iv) (c) Portrait prints vertically on the page, however, Landscape prints horizontally on the page. (v) The shape of the pointer can be changed for different windows operations. This shape of the pointer is known as pointer type. You can change Using Mouse Properties in control panel. (vi) Using Personalization window, click on Desktop background window. (vii) A moving picture or pattern that appears on your screen when you have not used the mouse or keyboard for a specified time is known as a screen saver. Using Personalization window, click on Screen Saver Settings. (viii) Appearance of windows elements such as text boxes, title bars, menu bars, desktop, etc is the way these items look when you start windows. (ix) A font is the name of a typeface that is used to display the text on screen including different styles such as italics, bold, bold italics, etc. (x) USB, Parallel, Serial (xi) Using Devices and Printers, right click on the selected printer and click on Printing Preferences. On Layout tab, Under Orientation, choose Portrait, Landscape or Rotated.

**Fill in the Blanks:** (i) Pointer Type, (ii) Wallpaper, (iii) Low Screen Resolution, (iv) Appearance Settings, (v) Mouse pointer, (vi) Postscript, (vii) Portrait, (viii) Landscape, (ix) Dots.

**True & False:** (i) False, (ii) True, (iii) False, (iv) False, (v) True, (vi) True, (vii) False, (viii) True, (ix) True, (x) True.



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**Match the Following:** 640x480 : Small screen area, but large items, 360x360 dpi : Printing resolution, Portrait : Paper size: Vertical, Type 1 Fonts : Postscript Fonts, Center, Tile or Stretch : Desktop Background.

**Changing Features:** (i) Control Panel : Adding or removing or modifying hardware, software, user accounts and features. (ii) Personalization : Desktop background, Screen Saver, Themes, Windows Color. (iii) Devices and Printers : Adding/Modifying/Removing Printers, Page Orientation, Page size, Printing Resolution, Port Selection. (iv) Mouse : Interchanging Buttons, Double click speed, Pointer types, Speed of the mouse, Pointer trails, Hiding pointer while typing. (v) Background : Wallpaper selection, Picture Position (Fill, Fit, Stretch, Tile, Center or Span). (vi) Color & Appearance : Appearance of Font, Changing Color, Font or Font size. (vii) Screen Saver : Add/Remove Screen Saver, Settings, Preview (viii) Screen Resolution : Selection of different available screen resolutions (the way the screen will be displayed). (ix) Program and Features : Change Programs, Uninstall Programs, Turning On or Off Windows features. (x) Fonts : Adding/Removing Fonts to the computer, Printing a font sample.

**Identify the Component:** (i) Themes, (ii) Screen Resolution, (iii) Control Panel, (iv) Screen Saver, (v) Wallpaper, (vi) Uninstall and Change buttons, (vii) Font Sample Preview, (viii) Printer resolution, (ix) Portrait, (x) Landscape.

**Jumbled Words:** (i) RESOLUTION, (ii) CONTROL PANEL, (iii) POINTER, (iv) WALLPAPER, (v) FONTS, (vi) PRINTER.

### Chapter 5 : Computer Viruses

**Question Answers:** (i) A computer virus is a small software program that spreads from one computer to another and interferes in smooth functioning of computer operations. (ii) Boot Sector Virus, File Infection Virus, DOS system infection virus, Macro Virus. (iii) All Viruses have four phases in their life execution cycle. These are: Dormancy, Propagation, Triggering and Action. (iv) (a) A Trojan virus attaches itself to a system command, game, utility and does something malicious. (iv) (b) A worm does not destroy data but slows down the computer. (iv) (c) Boot Sector virus resides inside the boot sector of a floppy or hard disk. It copies the boot program to a different place, when BIOS tries to locate boot program, it fails and system cannot boot. (iv) (d) A Bomb are snippets of code contained within normal programs. (iv) (e) File infector virus attaches themselves at the start or end of an executable file. On execution of an infected file, the virus moves to the RAM. It remains there in RAM and infects all the other files being brought to the memory for execution. (iv) (f) A Time bomb gets activated on a specific date/time such as Friday 13th and destroys data. (v) The computers can be prevented from getting affected by viruses by following methods: (a) Hardware solutions: It consists of a memory card that can be installed on motherboard of a machine. They invariably are ROM based and enable detection of both boot sector and file type viruses. (b) Software solutions: The entry of viruses can be prevented by booting the system with an un-infected DOS disk and then installing memory resident virus scanners. (c) Anti-virus Software: It is used to prevent, detect and remove malware including computer viruses, worms and trojan horses. Such programs also prevent and remove adware, spyware and other forms of malware. (vi) The major source of transmission of viruses are: Universities, Institutions, Local Area Networks, Disk libraries, Software development department, Computer service centres. The computer viruses effects through several ways: (a) Using Virus infected Floppy/Disk/CDs/Pen drives. (b) Opening an infected Email attachment. (c) Downloading an infected program from internet. (d) Running an infected program. (e) Through pirated (copied) software.

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**Fill in the Blanks:** (i) Worms, (ii) Antivirus software, (iii) virus, (iv) Bombs, (v) Worm, (vi) Logic Bombs, (vii) Floppy, CDs, (viii) Time bombs.

### Chapter 6: Introduction to Internet

**Question Answers:** (i) An Internet is a global collection of high-powered computers connected to each other with network cables, telephone lines, satellites, etc. (ii) In 1969, the US department started a project to allow researchers and military personnel to commute with each other in an emergency. The project as called ARPNET (Advanced Research Projects Agency Network) that laid the foundation of Internet. In 1990s, many companies started to offer access to home users that allowed anyone with a modem, telephone line and a computer to have an access over the Internet. (iii) A server is a source that provides shared services to other machines and manages resources in a network. A Client is an independent computer connected to a server. (iv) A web browser is a program that provides an interface to the ccomputers to communicate with web servers and displays the information stored there. (v) A search engine allows you to searching using plain language relevant to the topic of internet. It searches for keywords and returns a list of documents where those keywords can be found. Eg., Altavista, khoj, Yahoo, Google, etc. (vi) Favorites is a list of links to the selected topics that can be opened directly from the web browser. In Internet Explorer, click on Add to Favorites in Favorites menu. Type a new name for the web page and save it. To open this link again, simply click on Favorites button and from the list of web pages, click on the desired one.

**Fill in the Blanks:** (i) WWW, (ii) Website, (iii) Home page, (iv) Stop button, (v) Refresh button, (vi) History button.

**Steps involved:** (i) Click Start button, and choose Programs -> Internet Explorer, (ii) In the address bar of Internet Explorer, type *www.yahoo.com* and press enter key, (iii) Click on the Home button to take you to the default home page, (iv) Click on search button and in the search box and type "Mahatma Gandhi" and press Enter key. (v) Click on the Stop button to stop the page from being downloaded, (vi) Click on the History button to list down the sites from history. Click on the required web site link in the list to open the concerned web page.

**Match the Following:** .com : Commercial, .gov : Government, .mil : Military, .edu : Educational, .net : Large network, .org : Organization, Safari : Web browser

### Chapter 7: Word Processing Concepts

**Question Answers:** (i) A word processor is a computer application used for the production (including composition, editing, formatting and possibly printing) of any sort of printable material. (ii) Features of a word processor: Text Entry, Text Editing, Permanent Storage of documents, Text Formatting, Search and Replace, Inclusion of Graphics, Spell Checker, Mail Merging. (iii) Insertion point is a flashing vertical line that indicates the place at which the text will be typed. (iv) Mail merging is a tool by virtue of which all word processors print a large number of documents with similar text but different address. (v) Indentation is the distance of the paragraph from either the left or right margins. You can increase or decrease the indents of a paragraphs. It is of three types: Positive indent, Negative indent and Hanging indent. (vi) Horizontal alignment of text is done with respect to the left or right margins. It can be of four types: left, right, center and justified. However, Vertical alignment of text is done with respect to the top and bottom margins. It can be of three types: top, center and justified.

(vii) Margins are the gap from the text to the paper edge. The text and the graphics are printed inside the margins. These are of following types: Left, Right, Top, Bottom, Gutter, Mirror margin. (viii) The orientation of a page is the way it is going to be printed. You can print the page vertically or horizontally. Printing text vertically is known as Portrait Page Orientation. Printing text horizontally is known as Landscape Page Orientation.

**Fill in the blanks:** (i) Insert, (ii) Overtyping, (iii) Right, (iv) Left, (v) Line Spacing, (vi) Vertical Top alignment, (vii) Footer.

**Selection Methods:** (i) Shift + Right Arrow, (ii) Ctrl + Shift + Left Arrow, (iii) Ctrl + A, (iv) Shift + Home key, (v) Ctrl + Shift + Up Arrow, (vi) Shift + Page down.

**Match the Following:** Deleting the text : Backspace key, Spelling mistakes : Spell Checker, Line spacing : Height of the line of text, Text formatting : Bold, Italics, Underline, Landscape : Orientation.

**What occurs?:** (i) Select the sentence, (ii) Deselect the sentence, (iii) Select text from current position to the end of the document, (iv) Select text to the end of the word, (v) Select text to one line down, (vi) Select text to the beginning of the line.

### Chapter 8: LOGO Procedures

**Question Answers:** (i) The PRINT command helps you to display text messages or mathematical expressions on the screen. The syntax is : PRINT [Text Expression] or PRINT [Mathematical Expression]. (ii) PRINT 4 + 12 displays the message 16 on the screen. (iii) PRINT 12 / 4 displays the message 3 on the screen. (iv) When a set of commands are to be reused, the set of commands can be saved with a single name in the computer memory. This saved set of commands is known as LOGO Procedure. The set of commands given a name can be recalled whenever needed. (v) Title, Body of a Procedure and End line of the Procedure. (vi) A procedure used in another procedure is called a Sub Procedure. (vii) For running a procedure, you simply need to type the name of the procedure and press Enter key. (viii) ERASE command deletes a save procedure permanently where as ERALL deletes all the stored procedures in one go. (ix) We cannot have a procedure name as REPEAT, because as per the guidelines, the name should not be any LOGO command.

**Fill in the Blanks:** (i) Title, (ii) Procedures, (iii) Body, (iv) END, (v) Sub-procedure, (vi) POTS.

**Command Actions:** (i) LOAD: It is used to load a stored procedure into memory. (ii) SAVE: To save the procedures on the hard disk, we use SAVE command. (iii) ERASE: It deletes a save procedure permanently. (iv) ERALL: It deletes all the stored procedures in one go. (v) EDIT: It is used to make changes in an existing procedure or to write a new procedure. (vi) POTS: It is used to list all the procedures defined in memory.

**Match the Following:** LOAD : Loads a procedure, TO : Creates a procedure, SAVE : Saves a procedure, ERASE : Erase a procedure, ERALL : Erases all procedures, EDIT : Edits a procedure, POTS : Lists all the procedures.

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**Class 5**  
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### Chapter 1: Learning Number Systems

**Question Answers:** (i) For naming a disk drive, a symbol colon (:) and a backslash (\) is sufficed along with these drive letters and we write the drives as A:\ or B:\, Hard disks as C:\

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or D:\ and CD drives or PEN drives as E:\ or F:\. (ii) In order to store the information in a classified manner, one disk is divided into smaller area called as folders. They can be also created as per the requirement and can be assigned any name for its identification. Once folder may contain the data or it can be further divided into sub-folders. (iii) Windows Explorer folder or file management tool that provides an easiest way of viewing and managing folders/ files stored in various storage devices attached with computer. (iv) To copy a file or folder, select the file or folder and press CTRL+C. To move/cut a file or folder, select the file or folder and press CTRL+X. To paste a file or folder, select the file or folder and press CTRL+V. (v) Click the item, as file, program, folder, printer or computer, and go to File menu and click on Create Shortcut. You can also right click the item and click Send to and then click Desktop (Create Shortcut) to please the shortcut on the desktop. (vi) Open Windows explorer and in the Search Bar, start typing a file name or keyword. The search process will start displaying matching itmes even before you finish typing.

**Fill in the Blanks:** (i) Right-click, (ii) Unique, (iii) Contents, (iv) SHIFT, (v) CTRL, (vi) CTRL+C.

**True & False:** (i) False, (ii) True, (iii) False, (iv) False, (v) True, (vi) True.

### Chapter 2: Program Algorithms & Flow Charts

**Question Answers:** (i) A program is a logical sequence of steps that instructs the computer to transform the raw data into meaningful information. (ii) The series of carefully defined step-by-step procedures for solving a problem is called an algorithm. (iii) The execution of a set of instructions or processes repeatedly is known as Looping. (iv) (a) The READ command is used to accept input data from the keyboard, however, PRINT command is used to display/print/output information on the printer. (iv) (b) An infinite loop executes endless number of times where as a finite loop is designed in such a way that it executes for fixed number of times before exiting a loop. (iv) (c) A connector shows the entry from or exit to another part of flowchart on same page, however, a flow line with an arrow head is used to connect various symbols. The direction of the arrowheads shows the direction of flow of data and information. (iv) (d) AND operator is used when both the comparisons/conditions are TRUE, however, OR operator is used when any one comparison/condition is TRUE. (v) Characteristics of a Flow Chart: (a) Pictorial description of program logic. (b) Separates the logic development from program syntax. (c) Explains step by step logic of the program. (d) Acts as a part of program documentation. (e) Symbolic representation of each input, output and processing steps. (vi) Types of Operator Symbols: Assignment operator ( $\leftarrow$ ), Arithmetic operator (+, -, \*, /), Relational operator (=, >, <, >=, <=, #), Logical Operator (AND, OR, NOT). (vii) A pseudocode employs an abbreviated form of English to outline program logic. There are three basic control structures that can be identified by their indentation. The BEGINNING, PROCESS, END structures start at the left margins and the actions within the structures are indented.

**Fill in the Blanks:** (i) Machine, (ii) Pseudocode, (iii) Infinite, (iv) Entry point, Exit point, (v) Start, (vi) Assignment, (vii) Flowcharts.

**True & False:** (i) False, (ii) False, (iii) True, (iv) True, (v) False, (vi) False, (viii) True.

### Chapter 3: Creating Documents with MS-Word

**Question Answers:** (i) Click Start, click All Programs and in Microsoft Office folder, choose Microsoft Office Word 2010 application. Once you start Word, following window, the document window appears where in you can start typing text. (ii) To open an existing document, click

Open button on menu bar or press CTRL+O from the keyboard. In the open dialog box choose the appropriate drive and folder and select the document and click on Open button or double-click on the document. (iii) Select the item. To move an item, click Cut on the clipboard sub taskbar. To copy an item, click Copy on the clipboard sub taskbar. Select the folder or location where the selected item is to be pasted. To paste an item, click Paste on the clipboard sub taskbar. (iv) Typesize: It is the vertical measurement and is specified in points. Typeface: It is a complete set of characters (including upper, lower case characters, digits, special characters). Line Spacing: The spacing between the lines in a text. (v) Print a range of pages, Print only odd or even pages, Print multiple pages on one sheet of paper, Print multiple copies of a document at a time. (vi) Select the lines where bullets are to be applied. Click on Bullets button to apply bullets to the lines. (vii) A superscript describes text that is slightly higher than other text on a line, such as a footnote reference marks. A subscript describes text that is slightly lower than other text on a line. (viii) To change the case of the selected text, click Change Case button. Choose from Sentence Case, lowercase, UPPERCASE, Capitalize each word or Toggle case. (ix) Left, Right, Center and Justify. (x) You can select a block of text and then execute the command to operate on that text. You can select text by using the mouse or the keyboard. After selection, the text will appear as light type on a dark background on your screen, the reverse of the unselected text. For eg. for selecting a word, simply double-click it with the mouse and for the keyboard, choose SHIFT + Right/Left arrow key to select the word.

**Fill in the Blanks:** (i) Title bar, (ii) Format Font, (iii) Justified, (iv) Subscript, (v) Superscript.

**Activity of commands:** (i) Underline the text, (ii) Convert the text to italic format, (iii) Change the color of the text to blue, (iv) Paragraph will be center aligned, (v) It will add the Numbering to the text you type, (vi) It will add the Bullets to the text you type, (vii) The text will be cut and copied on to the clipboard

#### Chapter 4: Creating Spreadsheets with MS-Excel

**Question Answers:** (i) An electronic spreadsheet is a logical worksheet consisting of rows and columns that can contain numbers and text in the computer memory. Various features of a spreadsheet: (a) Usage of formulas, functions & macros. (b) Ability to display data in the form of charts. (c) Cell formatting, merging and locking. (d) Cut/Copy/Paste with single cells or range of cells. (e) Operations like deleting and inserting columns/rows. (ii) A Cell reference or links identifies a cell or a range of cells on a worksheet and informs Excel where to look for the values or data to be used in a formula. It is of three types: (a) Relative Reference: It is based on positional relationship between formula cell and the reference cell. (b) Absolute Reference: It refers to recording of cell address as fixed letter and number combination. The row and column are both prefixed with "\$" sign. (c) Mixed Reference: It is a combination of absolute and relative cell address. Either a row or column is maintained constant by prefixing the alphabet or number in the cell address by a "\$" sign. (iii) Select the cell or range of cells. To move the cells, click Cut on clipboard sub taskbar or press CTRL+X from keyboard. To copy the cells, click Copy on clipboard sub taskbar or press CTRL+C from keyboard. To paste the cells, click Paste on clipboard sub taskbar or press CTRL+V from keyboard. (iv) Relative cell reference is based on a relative position for the cell that contains the formula. If the position of a cell that contains the formula changes, the reference is changed. (v) The numbers typed without "=" or "+" sign are treated as text, therefore 22+33+44 is displayed. (vi) Place and click on the right heading column, till the cursor changes. Now drag it to right

or left side to increase or decrease the column width. Similarly, place and click on the bottom heading of a row. Now drag it downwards or upwards to increase or decrease the row height. (vii) An Excel function comprises of the name of the function, Name of the worksheet and cell references. (viii) Select the range, right click and click Copy. Select the cell where you want the first cell of the range to appear, right click and click on Paste. (ix) (a) A cell is an intersection of rows and columns. It is a smallest unit used to store information. Cell is identified with combination of column header and row number. (ix) (b) It is a rectangular box of adjacent or non-adjacent cells. It can be a single cell, a row or a column or several rows or columns. (ix) (c) A Row runs horizontally in the grid layout of a worksheet. They are numbered by numerals 1,2,3,... The worksheet has a total of 1048576 rows. The maximum row height is of 409 points. (ix) (d) A Column runs vertically in the grid layout of a worksheet. They are numbered by numerals A,B,C,...AA,AB,AC..... The worksheet has a total of 16384 columns (the last one is XFD column). The maximum column width is of 255 characters. (ix) (e) Cell is identified with combination of column header and row number. This combination of column reference and row reference is referred to as Cell address. (x) Select the range, right click and click Copy. Select the worksheet and select the cell where you want the first cell of the range to appear, right click and click on Paste.

**Fill in the Blanks:** (i) 1048576, (ii) 16384, (iii) B9=\$A8\*100, (iv) D10=D\$7\*100, (v) 255.

**Steps involved:** (i) On Insert Menu, click Cells. Now on Insert dialog box, choose Shift Cells right or Shift Cells down. (ii) Select two rows or columns and then right click and click on Insert. (iii) With Function: Type =TODAY in a cell and press enter key. Without Function: Press CTRL+; keys together. (iv) Select the range, right click and click Copy. Select the worksheet and select the cell where you want the first cell of the range to appear, right click and click on Paste. (v) Typing = sign in a cell. Click on the formula bar and type SUM(. Now specify the range and type ) and press enter key.

**Output of Commands:** (i) Cell pointer moves to the right cell. (ii) Cell pointer moves horizontally to the right hand side of sheet i.e. the last column in the same row. (iii) Cell pointer is moved to the cell where the text/numeric data is present. If there is no data in the column, it moves to the last row of the spreadsheet in the same column. (iv) Cell pointer scrolls to one screen down. (v) Cell pointer is moved to the first cell of the worksheet i.e. A1. (vi) The cell range is shifted to the cell location Z10.

## Chapter 5 : Computer Networks

**Question Answers:** (i) A network is a collection of computers and devices connected by communication channels that allow users to share data, information, hardware and software with other users. (ii) Advantages of Networking: (a) Sharing hardware resources (b) Sharing data and information (c) Sharing software resources (d) Communication are easy and (e) Network exist in various size from a small network of two computers to a global network. (iii) Types of Network Topologies: Star, Bus, Ring, Tree, Star-ring, Star-bus, Completely connected topology. (iv) A network is classified on the basis of their size, i.e. Local Area Network (LAN), Metropolitan Area Network (MAN), Wide Area Network (WAN), Personal Area Network (PAN), Campus Area Network (CAN). LAN connects many computers or workstations within a localized area typically confined to a single premises or cluster of buildings. The distance between communication terminals connected on the same LAN is usually upto 1 km. MAN is a collection of LANs that connects computers located in the same geographical area such as a city or town. WAN covers a large geographical area using a telephone lines, microwaves,



satellites as transmission media. Internet is the world's largest wide area network. PAN is used for communication among computer devices including telephones, personal digital assistants belonging to an individual. The reach of PAN is typically a few meters only. A bluetooth PAN is also called Piconet that can connect upto 8 devices. CAN is made up of interconnection of LANs within a limited geographical area by the use of optical fibers, copper plant or Cat5 cabling typically owned by a campus tenant/owner (an enterprise, university, government, etc). (v) Every network is created with the help of a transmission media. It is classified into two, i.e. cable media and wireless media. The cable media consists of twister pair cable, coaxial cable, optical fibre cable. The wireless media consists of usage of microwaves and satellites. (vi) A completely connected network is the one in which each computer in the network is connected directly to the other computers on network. It is also known as Mesh topology. This topology is more reliable and faster and it is neither dependent on a host of a bus line. However, due to one to one wiring connectivity it is more expensive. (vii) PAN: Personal Area Network, MAN: Metropolitan Area Network, CAN: Campus Area Network, LAN: Local Area Network and WAN: Wide Area Network.

**Fill in the Blanks:** (i) Network, (ii) Server Network, (iii) Network topology, (iv) Star topology, (v) Bus topology, (vi) Twister pair cable.

**True & False:** (i) False, (ii) True, (iii) False, (iv) True, (v) False, (vi) True.

**Match the Following:** LAN : Local Area Network, WAN : Wide Area Network, PAN : Personal Area Network, CAN : Campus Area Network, MAN : Metropolitan Area Network.

**Identify the topologies:** Star, Tree, Bus, Mesh, Ring

### Chapter 6: Electronic Mail

**Question Answers:** (i) An electronic mail is a method of exchanging digital messages across the internet or other computer networks. The email messages can be sent instantly without any delay. (ii) The typographic character @ is used in email addresses where it stands for "located at". (iii) Cc stands for Carbon Copy. The name of the selected recipients for Cc mail will be visible to all other recipients of the message. Bcc stands for Blank Carbon Copy. The name of the selected recipients for Bcc mail will not be visible to all other recipients of the message. (iv) Advantages of E-mail: Easy of use, Speed, Easy to identify, Reliable, Secure, Informal and conversational, automated emails, use of graphics, etc. (v) Email writing tips: (a) Add an appropriate subject like which defines the purpose of email in short. (b) An email salutation requires you to address the recipient by his surname. (c) Emails should be short and precise. Define the purpose of email in the first paragraph and provide details in the following paragraphs. (d) If you expect any action on the recipient's part, then express it in a polite way. (e) If you are sending an attachment, along with your email, then make sure to mention it in your main message. (f) Put an end to your message in a polite way. (g) Include your full name, your contact number, email signature at the end of your email message in the leftmost corner. (vi) An email message comprises of: (a) To: Emails of recipients of the message. (b) Date: Date on which the message is sent is automatically added to the message. (c) From: Sender's name is automatically added to the message. (d) Subject: It should be informative and display a brief contents of the message. (e) Cc: Emails of Carbon Copy recipients. (f) Bcc: Emails of Blank carbon copy recipients. (vii) Emails when used to send unsolicited messages and unwanted advertisements create nuisance and is termed as Spam. Spamming includes hoax emails and email spoofing. You email travels between servers



located in different parts of the world before it reaches the desired recipient. Hacking is a process of achieving access to a computer or computer network without legal authorization. (viii) In plain text email, there is no formatting using different fonts or colours. However, an HTML email allows you to add formatting to your text, images or links using HTML codes. (ix) A salutation is a greeting in particular a formal greeting used in a letter. If you are unaware regarding the recipients identity, then simple Hello is sufficient, and if communicating with a senior person, simply add 'Dear Mr. Khanna" which sounds appropriate, instead of adding typing his name directly. (x) In an email process, a sender is the one who sends the email and the recipient is the one who is going to receive the email.

**Fill in the Blanks:** (i) User-ID, Host-domain name, (ii) @, (iii) Cc, (iv) Bcc, (v) Spam, (vi) hoax emails, spoofing, (vii) Hacking.

**Define following:** (i) @ Sign: The typographic character @ is used in email addresses where it stands for "located at". (ii) Subject: It should be informative and display a brief contents of the message. (iii) Domain: The domain name comprises of: Server name, Zone name, Network name and Internet service provider. (iv) From: Sender's name is automatically added to the message. (v) To: Emails of recipients of the message. (vi) Cc: Emails of Carbon Copy recipients. (vii) Bcc: Emails of Blank carbon copy recipients. (viii) Logging: It is process of keying the username and password of an email account, so as to have an access to the email account. (ix) Username: It is a screen name for a user that is required to log into an account. (x) Password: It is a secret word or string of characters that is used for authentication, to prove identity or gain access to a resource. (xi) Content: The message body is referred to as content. Emails should be short and precise. Define the purpose of email in the first paragraph and provide details in the following paragraphs. (xii) Attachment: It an additional file that may be document in the form of a image file, sound file, word file, excel file or presentation or any other text file that can be sent along with the text message in an email.

**Match the Following:** @ : Email address, Bcc : Blank carbok copy, Cc : Carbok copy, .in, .uk : Zone name, Trojan Horse : Email virus

## Chapter 7: Exploring Internet

**Question Answers:** (i) Websites are divided in a variety of categories. A Website may be considered into multiple categories if appropriate. Sites entered into multiple categories will be reviewed separately for each category entered. For e.g., many educational websites put up by all possible organizations provide electronic journals, articles, books, statistical data, teaching materials, online courses, lecture notes, learning packages, news groups etc. (ii) Search tools on Internet: Search Engine, Web directories and Subject Gateways. A search engine is designed to search for information on the World Wide web and FTP servers. The search results are generally presented in a list of results and are often called hits. Subject gateways are created by selected experts and are sorted according to subject or category. The subjects are catalogued hierarchically for e.g. into art, recreation and science. Science is subdivided into natural science, exact sciences and life sciences. A web directory specializes in linking other web sites and categorising those links. It organizes web sties by subject and is usually maintained by humans instead of software. (iii) Use nouns as query words. Never use articles, pronouns, conjunctions or prepositions. Use 6 to 8 keywords per query. Combine keywords into phrases by using quotation marks. Spell carefully and consider alternate spellings. Avoid redundant terms. (iv) (a) Search Engine: A search engine is designed to

search for information on the World Wide web and FTP servers. The search results are generally presented in a list of results and are often called hits. (iv) (b) AND: This boolean AND is used to connect words where it requires both terms to be present in a page. (iv) (c) OR: This boolean OR is used to connect words where it requires atleast one of the terms to be present in a page. (iv) (d) NEAR: This boolean NEAR is used to connect words where it requires one term to be found in a certain number of words of the other term. (iv) (e) Subject Gateway: Subject gateways are created by selected experts and are sorted according to subject or category. The subjects are catalogued hierarchically for e.g. into art, recreation and science. Science is subdivided into natural science, exact sciences and life sciences. (iv) (f) Web directory: A web directory specializes in linking other web sites and categorising those links. It organizes web sties by subject and is usually maintained by humans instead of software. (iv) (g) NOT: This boolean NOT is used where it requires to exclude any document containing the term. (iv) (h) Operator: Operators are the rules and specific instructions used for composing a query in a keyword search. These are: Booleans (AND, NEAR, NOT, OR), Plus/Minus (+,-), Phrases

(v) The categorisation is usually based on the whole website rather than one page or a set of keywords, and sites are often limited to inclusion in only a few categories and depends upon the price paid for inclusion: (a) Free Submission: No charge for the review and listing of the site. (b) Reciprocal link: A link back to the directory must be added somewhere on the submitted site in order to get listed in the directory. (c) Paid Submission: A one time or recurring fee is charged for reviewing/listing the submitted link. (d) Bid for position: The sites are ordered based on the bids. (e) Affiliated links: The directory earns commission for referred customers for the listed websites. (f) Featured Listing: The link is given premium position in a category or other sections of the directory, such as the homepage that are called sponsored listing. (vi) The finest tools for searching the web with small children are kids.nationalgeographpic.com and www.kidzsearch.com.

**Fill in the blanks:** (i) Educational websites, (ii) Search Engine, (iii) Quotation marks, (iv) Subject Gateways, (v) Internet sites, (vi) Search Engine.