

e-CODE

Windows 10 & MS Office 2016



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Computational Thinking

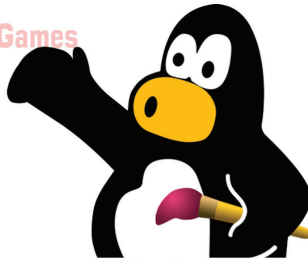
Cyber Ethics

Artificial Intelligence

Data Science

Coding

Board Games



Teacher Manual



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1. HOW A COMPUTER WORKS?



••• Brain Tuner •••

- A. 1. (b) 2. (a) 3. (a) 4. (c) 5. (c)
- B. 1. Scroll wheel 2. Hardware 3. Control unit 4. Output 5. Soft copy
- C. 1. (F) 2. (T) 3. (T) 4. (T) 5. (T)
- D. 1. The three steps involved in the functioning of computer system are Input > Process > Output (IPO cycle).
2. The devices which are used to enter data into the computer is known as input devices. Ex- Keyboard, Mouse.
3. CPU is the processing device of the Computer. It is the brain of the Computer. Its three units are Arithmetic Logic unit (ALU), Control unit (CU) and Memory unit (MU).
4. The devices which are used to display data that we enter into the computer and get the output from computer are called output devices. Ex- Printer, Speakers.
5. (i) Inkjet printer prints slower than laser printer, while laser printers can print much faster than inkjet printers can.
- (ii) An inkjet printer uses ink to print documents while laser printer uses a laser to print documents.
6. A digital camera is an instrument used to take, or record, pictures of people and objects.
- E. 1. Central Processing Unit 2. Cathode Ray Tube
3. Light Emitting Diode 4. Liquid Crystal Display
5. Arithmetic Logic Unit 6. Control Unit

Fun Time



I



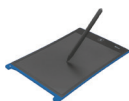
O



O



I



I



O



O



I



2. COMPUTER MEMORY



••• Brain Tuner •••

- A. 1. (c) 2. (c) 3. (c) 4. (b) 5. (b)
- B. 1. Character 2. Primary 3. Boot up 4. Pen drive
5. Directly 6. Hard disk drive
- C. 1. (T) 2. (T) 3. (F) 4. (T) 5. (T) 6. (F)
- D. 1. The storage area of a Computer is known as its memory.
Computer memory is mainly divided into two types (a) Primary memory (b) Secondary memory.
2. (i) Primary memory is the built-in memory of a computer, while Secondary memory is the external and permanent memory of a computer.
(ii) Primary memory is the fastest memory while secondary memory is slower than primary memory.
3. (a) (i) Ram is a volatile in natural.
(ii) Ram is known as primary memory of the.
(iii) Ram is the fastest memory.
(b) (i) Rom is a non-volatile memory.
(ii) Rom delivers on-volatile and permanent primary storage.
(iii) Rom is slower than RAM.
4. Flash drive, popularly known as pen drive, is a small, portable and most popular data backup device.
5. (a) DVD stands for Digital Versatile Disc. It is also a type of optical media. It has a larger storage capacity.
(b) Blu-Ray disc is a successor of DVD. It is also a type of optical media. It can store up to 50GB of data.
(c) CD stands for Compact Disc is a small plastic disc on which sound, music can be recorded. CDs can also be used to store information, it can store up to 700MB of data.

Fun Time

- A. 1. Random Access Memory 2. Read Only Memory 3. Hard Disc
4. Compact Disc 5. Flash Drive 6. Memory Card
- B. **Memory Unit** 1bit 1B 1KB 1MB 1GB 1TB 1PB
Value 0 or 1 8 bits 1024 bytes 1024 KB 1024MB 1024MB 1024TB

Lab Activity

Ram 256 MB to 32 GB Hardisk 500 GB to 8TB.

3. FILES AND FOLDERS IN WINDOWS 10



••• Brain Tuner •••

- A. 1. (b) 2. (c) 3. (b) 4. (c) 5. (c)
- B. 1. Double-Click 2. F2 3. Subfolder 4. Ctrl + A 5. Clipboard
- C. 1. (T) 2. (T) 3. (T) 4. (T) 5. (T) 6. (T)
- D. 1. Operating systems controls the operation of a computer and directs the processing of the user's programs.
2. Window 10 is a personal computer operating system, which was developed and released by microsoft in 2015. It can run on desktop computers, laptops as well as tablets. The two features of window 10 operating systems are (i) Speed (ii) Start menu.
3. Document, Downloads, Music, Pictures, and Videos are already present in Windows.
4. Click the first file or folder to be selected. Press and hold the shift key and then click the last or folder a to be selected. In this way you can select multiple adjacent files or folders.
5. Filename extension enables you to know the type of a file and accordingly, file icon is displayed. Ex- Computer .txt shows an icon of the notepad program. Here, Computer is the filename and .txt is the extension of the file.
6. To rename a folders, Right click on the item>select Rename> Type the new name and press Enter.
7. A shortcut icon provides an easy and quick method to open any application or software that we use frequently. Right click the program name>select open file location>Right click program name>Click send to> create Shortcut (Desktop).
- E. 1. A file is a collection of related data and information. Files can be stored on some storage devices such as CD, DVD, etc.
2. A folder helps you to organise your files on the computer. It helps you locate any file easily.
3. A folder present inside another folder is called a Sub folder.
4. A name given to a computer file is called a filename. It is used to identify and locate the file in the computer.

Fun Time

- | | | |
|--------------------------------|-------------|-------------------|
| 1. Press and hold the Ctrl key | 2. Press F2 | 3. Shift + Delete |
| 4. Recycle bin | 5. Paste | 6. File |
| | | 7. Subfolder |



4. EDITING IN MS WORD 2016



••• Brain Tuner •••

- A. 1. (b) 2. (c) 3. (b) 4. (b) 5. (a)
- B. 1. Editing 2. Quick Access 3. Double-click 4. Triple-click 5. Red wavy
- C. 1. (T) 2. (F) 3. (T) 4. (T) 5. (T)
- D. 1. Word processor software includes important skill for children. It can create, edit and save their written work using a Computer.
2. (i) It helps you format the text and insert pictures in your document.
(ii) It helps you to correct the spelling and grammar mistakes.
3. Undo command is used to cancel the last change made in the document. Redo command is used to cancel the effect of undo option. These buttons are on the Quick Access toolbar on the left side of the Title bar.
4. Thesaurus is used to look up synonyms and antonyms of a word in a document. Thesaurus on the. Review tab and in the proofing group.
5. When you move the text, it is removed from its original location, whereas, while copying the text appears to the new location.
6. To select a single word, quickly double-click that word.
7. The delete key removes the text from the right side of the cursor and Backspace key removes the text from the left side of the cursor.
- E. 1. (e) 2. (f) 3. (b) 4. (c) 5. (a) 6. (d)

Fun Time

	Synonym	Antonym
Result	<u>end</u>	<u>start</u>
Natural	<u>Real</u>	<u>Artificial</u>
Successful	<u>Fortunate</u>	<u>failed</u>
Warming	<u>refreshing</u>	<u>freezing</u>

Coding Time

1. Write the largest and smallest six-digit numbers having four different digits. 999,876
2. If $42 \# 7 = 6$ and $49 \# 7 = 7$, then $125 \# 5 = ?$ 25



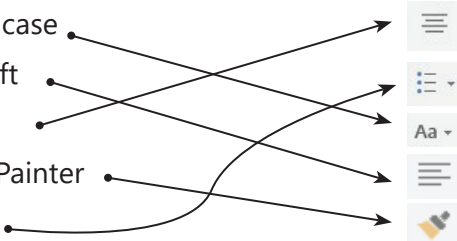
5. MORE FORMATTING FEATURES OF MS WORD 2016



••• Brain Tuner •••

- A. 1. (c) 2. (c) 3. (c) 4. (c) 5. (a)
- B. 1. Attractive 2. Alignment 3. Bullet 4. Paragraph 5. Cenetr
- C. 1. (T) 2. (F) 3. (T) 4. (F) 5. (T)
- D.
 - 1. The format painter tool lets you copy the formatting attributes such as font, font colour, etc. of a certain text and apply them to another piece of text.
 - 2. Sentence case, Lowercase, UPPERCASE, Capitalize each word, TOGGLE CASE are the various change case options available in MS Word.
 - 3. Left alignment, Right alignment, Cenetr alignment, Justified alignment are the various text alignment options in Word.
 - 4. Bulleted is a small graphic symbol that can be used to show different items in a list ,while, numbered list is generally used to show a sequence of events.
 - 5. Go To design>Page Borders>Make your changes>Click ok.
 - 6. (a) Text alignment is the placement of the text with respect to the left and right margins.
 - (b) Changing the appearance of a document is known as formatting.
 - (c) Bullet is a small graphic symbol that can be used to show different items in a list.

Fun Time

- 1. Change case
 - 2. Align Left
 - 3. Center
 - 4. Format Painter
 - 5. Bullets
- 

Coding Time

- 1. Ctrl + B 2. Ctrl + U 3. Ctrl + L 4. Ctrl + I 5. Shift + F3 6. Ctrl + R







6. WORKING WITH OBJECTS AND TABLES IN WORD



••• Brain Tuner •••

- A. 1. (b) 2. (b) 3. (c) 4. (a) 5. (c)
- B. 1. Insert 2. Blue 3. Resizing 4. Pictures 5. Organised
- C. 1. (F) 2. (T) 3. (T) 4. (T) 5. (F)
- D. 1. Click insert> Draw text box>Click inside the text box>start typing.
2. A text box is a place holder where you can enter text. A text box can be created and moved to any place in the document.
3. WordArt is a quick way to make text stand out with special effects. On the insert tab in the text group>click WordArt>click WordArt style that you want.
4. Inserting pictures stored in Computer, Inserting online pictures are the two ways of inserting pictures in a document.
5. A Table is a simple arrangement of data in the form of rows and columns, which intersect to form cells. Press Tab to move from one cell to another in a table.
6. To add row, click insert Above or insert Below. In this way you can insert a new row in a table.

Fun Time

Icon	Name	Group	Tab
	Table	Tables	Insert
	Text	Text	Insert
	Picture	Images	Insert
	Shape	Illustration	Insert

7. INTRODUCTION TO MS POWERPOINT



••• Brain Tuner •••

- A. 1. (b) 2. (c) 3. (c) 4. (b) 5. (c)
- B. 1. PowerPoint 2. File 3. Slide area 4. Title slide
5. Slide show 6. Resize handles
- C. 1. (T) 2. (T) 3. (F) 4. (T) 5. (T)
- D. 1. A software package used to create and display information in the form of a slide show is called Presentation program. MS PowerPoint is a software application developed by Microsoft that allows you to create presentations.
2. In the slide thumbnail pane on the left> Click desired slide on the Home tab or> Click New slide
3. Each page of a Powerpoint presentation is called a slide while A presentation is a set of slide that you present to people in a group.
4. Slide layouts contain formatting positioning and placeholders for all the contents that appear on a slide.
5. Title slide-This layout is used to give a title and a subtitle to the presentation. Two content-This layout is used to add text content along with a graphic content.
6. Slide area is located in the middle of the Powerpoint window. It displays the active slide while slide pane shows the thumbnails of all the slides present in the current presentation.
7. Click on the thumbnail of the desired slide in the Slide pane.
8. (a) Placeholders is a preformatted container on a slide for content (text, graphics, etc.)
(b) Slide show is an electronic presentation of slides displayed on the computer screen.

Fun Time

1. PICTURES 2. NEWSLIDE 3. TWOCONTENT 4. TITLEBAR
5. HOME 6. SLIDESPANE 7. DELETE

Coding Time

1. F5 2. Ctrl + Shift + M 3. Esc 4. Ctrl + W 5. Shift + F5 6. Ctrl + O








8. WORKING WITH THE SPRITE



••• Brain Tuner •••

- A. 1. (a) 2. (a) 3. (c) 4. (a) 5. (a)
- B. 1. Sprites 2. Backdrop 3. Animate 4. Stop
- C. 1. (F) 2. (T) 3. (T) 4. (F) 5. (T)
- D. 1. Backdrop is one out of many backgrounds available for the stage in scratch. They can be named, edited, created and deleted.
2. Step (i) Choose a backdrop icon on the button right corner of window. The choose backdrop window appears.
Step (ii) Click on the 'desert' backdrop. New backdrop added to the stage.
3. Step (i) Click on the choose sprite button in the stage area.
Step (ii) Choose the number of sprite as per requirement. The sprite will be added on the stage.
4. The turn left () degrees block carries out a similar instruction to the turn right () block, except it will rotate your sprite in an anticlockwise direction.
- E. 1. Look Block
2. In the stage script area, click on the second tab towards the top labelled Backdrops.
3. The hide block is a look block and a stack block.

Fun Time

Block	Description
	This block in the motion block moves the sprite smoothly to the particular position on the stage
	This block is used to rotate the sprite forever until the stop button is pressed.
	This block rotates and moves the sprite clockwise using this block.
	This block rotates and moves the sprite anticlockwise.
	This block to move the sprite at random position on the stage or move along with the mouse pointer.

9. INTRODUCTION ABOUT INTERNET



••• Brain Tuner •••

- A. 1. (c) 2. (c) 3. (c) 4. (a) 5. (c)
- B. 1. Information 2. E-commerce 3. Home page
4. Search engines 5. Hyperlink 6. Address
- C. 1. (T) 2. (T) 3. (T) 4. (F) 5. (F)
- D. 1. Internet is a global network that connects millions of computer world wide.
2. (i) We can send and receive message from any part of world using (E-mail).
(ii) Internet is a source of endless information.
(iii) Internet can be used to know latest news.
(iv) We can buy whatever we want on the Internet.
3. When you transfer data form your computer to another computer over the Internet is called uploading while, when you transfer data from another computer to your computer over Internet it is called downloading.
4. URL stands for Uniform Resource Locater. Each web page has a unique address called a URL, which enables the web browser to locate that web page on the Internet.
5. A web browser is a software application or mobile app that allows you to view the web page, graphics, and most of the online content.
6. (i) Search engine is a software that is designed to reach any information on the Internet. The popular search engines are Google, Bing and Yahoo.
(ii) Each website consists of numbers of web pages. The first web page of any website is called the Home page.
(iii) WWW stands for world wide web, also called the web, is a collection of information resources, images or multimedia on the Internet that are connected to each other.
- E. 1. Open any popular search engine, like Google and use the text box on that page to run your search.
2. Amazon and Flipkart
3. Interesting facts about the Sahara Desert should be enter in the search text box of the Bing or Google search engine.

Fun Time

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

REVISION SHEET-1

- A. 1. Electronic 2. Keyboard 3. Character 4. Grammatical
5. Subfolder 6. Left
- B. 1. (b) 2. (c) 3. (b) 4. (b) 5. (c)
- C. 1. (F) 2. (T) 3. (T) 4. (T) 5. (T)
- D. 1. (a) Data is unorganized while information is organized.
(b) RAM is a volatile memory while, Rom is a non-volatile memory.
2. (i) Multiple Desktops (ii) Taskview.
3. Secondary memory can keep data indefinitely even if the power supply is turned off. Ex- Hard disk, Pendrive, CD.
4. To align text left, press (Ctrl + L) for right press (Ctrl + R) for center press (Ctrl + E)
5. Blu-ray disc uses shorter wavelength laser as compared to CD/ DVD.
6. Toggle case
- E. 1. Pen-Drive 2. Thesaurus 3. Triple-Click
4. Garima has not saved her file that is why she did not find it.

REVISION SHEET-2

- A. 1. Anywhere 2. Sprite 3. Middle 4. Script 5. Web pages
- B. 1. (b) 2. (c) 3. (c) 4. (b) 5. (a)
- C. 1. (T) 2. (F) 3. (T) 4. (T) 5. (T)
- D. 1. Chrome browser icon 2. Internet Explorer icon
3. Firefox browser icon 4. Opera browser icon
- E. 1(a) Presentation is a process of showing or explaining a topic to large number of audiences usually on a big screen.
(b) Homepage is the first page of website.
2. Internet is a global network that connects a millions of computer world wide.
3. It allows you to easily move from on slide to another or by dragging the order of your slides.
4. The two content includes two placeholders while comparison layout helps you to show a comparison between two different boxes.
5. You can add a variety of objects such as PDF Files, Excel charts, worksheets or PowerPoint Presentations.
6. Click where you want in your table to add a column then click the layout tab (this tab is on the ribbon.)
- F. 1. Web page is a single document on the web using a unique URL. While home page is the first web page of any website. It is the main index page of a website.
2. Slide Layout 3. Insert tab and Table group.
4. To add a fruit, Click either the button beside NEW SPRITE. Choose from the library, paint your own sprite and upload you image.

Cyber Olympiad

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