

Data Entry and Keyboarding Skills

Fastrack REVISION

- ▶ **Data Entry:** It is the process of inputting data or information into the computer using devices such as a keyboard, scanner, disk and voice, using specific software. This work is done by expert data entry operators who have complete knowledge regarding data entry.
- ▶ **Keyboarding Skills:** Keyboarding is a technical skill that is quickly becoming central in education, the marketplace, and in people's lifestyles. Typing helps us improve and learn new skills through a computer or any other device that is keyboard-based. From learning codes to learning a new language online, we can improve our employability and marketability just because our typing skills accelerate these learning processes.
- ▶ **Keyboard:** The keyboard is the most common and a very popular input device that enables a user to input data and instructions to the computer. It is used to input the text and numerical data.

- **Normal Keyboard:** A normal keyboard has approximately 104 or 108 keys. This type of keyboard is connected to the CPU with/without a wire.
- **Flexible Keyboard or Roll-up Keyboard:** This type of keyboard is made of silicon material that can even be folded. The roll-up computer keyboards are extremely good for travelling as you can easily roll them down when you need them and roll them up when you do not need them.
- **Virtual Keyboard:** It is the one that does not exist physically. A small portable dongle-like device is there that makes a keyboard on the dark flat surface with the help of the laser beams.
- ▶ **Types of Keys:** Though there are several input devices, for example, mouse, touchscreen, character or voice recognition, etc., used for giving input to the computer, but the use of keyboard is the most common method adopted for input of data into a computer. A computer keyboard contains the following types of keys:
 - **Alphabet Keys:** The alphabet keys are from the letter 'A' to 'Z', but they are not in the same order. We can type letters and sentences using the alphabet keys. There are a total of 26 alphabet keys on a keyboard.
 - **Numeric Keys:** The numeric keys have the numbers 0-9, written on them. We can type our age, the roll number, the height and many more, using these keys.
 - **Punctuation Keys:** The keys associated with punctuation, such as the comma (,), period (.), semicolon (;), brackets ([]), and parenthesis ({ }) and so on come under this category. Also, all of the mathematical operators such as the plus sign (+), minus sign (-), multiplication sign (*), division sign (/) and equal sign (=) come under this category.
 - **Cursor Control Keys:** A cursor is a small blinking line on the monitor that shows the current position of the text, to be entered. There are four cursor control keys on a keyboard: Left, Right, Up and Down.
 - **Shift Key:** The shift key is used along with the other keys to type special symbols and capital letters. We know that some keys on the keyboard have two symbols on them.
 - **Caps Lock Key:** The caps lock key is used to type in capital letters or in the upper case, on the monitor. This is a toggle key which means that once this key is pressed, the Caps Lock light is on and this indicates that the Caps Lock key is active.
 - **Tab Key:** The tab key is present on the left side of the keyboard. It is pressed to move some spaces forward. It moves the cursor to the next tab stop.
 - **Function Keys:** There are 12 function keys on a keyboard. These keys are placed on top of the keyboard and each of them performs a specific function.
 - **Home Keys:** Alphabets ASDF are the home keys for the left hand and JKL; are for the right hand. The fingers are trained to make the correct movement to other keys and each finger returns immediately to its respective home key after pressing the corresponding key in any other row.
 - **Guide Keys:** On a computer keyboard, keys 'F' and 'J' are called guide keys for left and right hand, respectively. These keys contain a small raised tangible mark with the help of which the touch typist can place the fingers correctly on the home keys.
- ▶ **Mouse:** The mouse comes under the category of pointing devices. It is the most popular and widely used pointing device. Various types of mouse are available now-a-days.
- ▶ **Types of Mouse:** A computer mouse can be of different types. Which are as follows:
 - **Two-button Mouse:** A two-button mouse has a left button and right button.
 - **Three-button Mouse:** A three-button mouse has a left button, a right button and a middle button.
 - **Scroll Mouse:** A scroll mouse has a small wheel in between the left and the right buttons. This wheel is known as the scroll wheel. We can move a page up and down by moving this scroll wheel.
 - **Mechanical Mouse:** The mechanical mouse has a ball at the bottom that moves the pointer on the monitor screen. This type of mouse is hardly used now-a-days.
 - **Optical Mouse:** It is the most commonly used mouse now-a-days. It uses an optical light to move the pointer.
 - **Infrared (IR) or Radio Frequency Cordless Mouse:** This type of mouse is usually used with laptops, tablets, etc. It is a wireless mouse.
 - **Cordless 3D Mouse:** This type of mouse is used for gaming purpose. It has many buttons to perform specific tasks while playing a game. It is also a wireless mouse.
 - **Trackball Mouse:** It was initially used with laptops and for playing games.
- ▶ **Mouse Pointer:** When we move a mouse, an arrow moves on the monitor screen, in the same direction. This slant arrow is called the mouse pointer.
- ▶ **Holding a Mouse:** To use a mouse, we simply grip it in the palm of our hand and move it from side-to-side. As we

move the mouse, the pointer can be seen moving on the screen. It moves so fast from one corner of the screen to the other that it gives the impression of a mouse running around.

- ▶ **Drag and Drop:** Drag and drop is used to move an item present on the screen, to a new location.
- ▶ **Scrolling:** The rolling of the scroll wheel of a mouse, upwards or downwards, is called scrolling. To move a page up or down, we scroll the mouse.
- ▶ **Blocking:** Blocking is another way of selecting text. It is used to select text that needs to be edited or formatted. Click at the beginning of the word or sentence and hold down the left button, then drag along the text and see it being highlighted in black. At the end of the text or sentence, release the left button.
- ▶ **Typing Ergonomics:** It is a technique to provide the logistic support for efficient and effective typewriting. It looks at the correct set up of desk equipment as well as posture and how to correctly type at a desk. The aim is to reduce the strain, stress and wear and tear of joints while typing.
- ▶ **Positioning of Fingers on the Keyboard:** The keyboard should be easily accessible while sitting without having to reach. A good position of hands is either parallel or slightly below the elbow. The finger should rest on the second row of keyboard letters. Starting from pinky finger resting on A, put the next on S, next finger on D and Index finger on F. The left side index finger should rest on J, the next on K, then L and the pinky finger should rest on the semicolon. Thumbs of both hands should rest on the space bar.
- ▶ **Touch Typing:** The method of typing fast and in a fluent manner, without even looking at the keyboard is known as touch typing. A touch typist types very fast without looking at the keyboard. This technique of typing involves the use of muscle memory instead of eyesight at the time of typing. Touch typing involves the sense of touch. After a lot of practice, the sense of touch is hardly felt as the extreme muscle training is involved.
- ▶ **Rapid Typing—A Touch Typing Software:** The Rapid Typing Tutor is touch typing training software that is available for free of cost on the Internet. It can easily be downloaded and installed on any computer. It is efficient typing software that teaches typing through fun and interactive typing games. Thus, typing can easily be learnt by adults or kids. Using touch typing, people of all the ages can easily learn the touch typing skill.
- ▶ **Techniques for Touch Typing:** The process of touch typing technique can be divided into three different phases:
 - ▶ **Phase 1:** Phase 1 emphasises on the practice of the home row keys. The row next to the Caps Lock is called the home row. In this phase, a touch typing learner learns to type the letters of the home row without looking at the keyboard. Once he/she has

practiced the process of pressing the home row keys, he/she can move to the other rows such as upper row, lower row, number row, etc.

- ▶ **Phase 2:** In phase 2, a touch typing learner starts memorising frequently used syllables and typing words, containing these syllables.
- ▶ **Phase 3:** Phase 3 covers all the necessary techniques to master the touch typing skill.
- ▶ **Rapid Typing Software Interface:** The different parts of the Rapid Typing window are as follows:
 - ▶ **Title Bar:** It shows the name of the application program. It also has buttons for different tasks such as accessing lesson editor, current lesson, students statistics along with the minimise, maximise and close buttons.
 - ▶ **Current Lesson Button:** This button is used to check the current lesson in which a user is working at present.
 - ▶ **Student Statistics Button:** This button is used to check the statistics of the user's typing skills.
 - ▶ **Lesson Editor Button:** This button is used to open the lesson editor to edit the lesson settings.
 - ▶ **Options Button:** This button is used to set the appearance settings of the typing tutor such as language, keyboard, text color, background color, font, theme, etc.
 - ▶ **Minimise Button:** This button minimises the Rapid Typing window.
 - ▶ **Maximise Button:** This button maximises the Rapid Typing window.
 - ▶ **Close Button:** This button closes the Rapid Typing window.
 - ▶ **Select Course Button:** This button is used to select the course type in which a user wants to work, i.e., Introduction, Beginner, etc.
 - ▶ **Select Lesson Button:** This button is used to select the lesson type in which a user wants to work.
 - ▶ **Start/Pause Lesson Button:** This button is used to start/pause the lesson for a while.
 - ▶ **Current Lesson Time Button:** This button shows the elapsed time and remaining time when a user is working with a lesson.
 - ▶ **Restart the Lesson Button:** This button resumes or restarts the lesson.
 - ▶ **Text Area:** This area displays the practice text to be typed by a user while practicing with a lesson.
 - ▶ **Status Bar:** This displays the tips to be used to improve the typing skills while working with Rapid Typing. It also contains the Speaker button to control the volume.
 - ▶ **Colour Coded Virtual Keyboard:** This keyboard highlights the keys to be pressed when a user is working with a lesson in the Rapid Typing software.



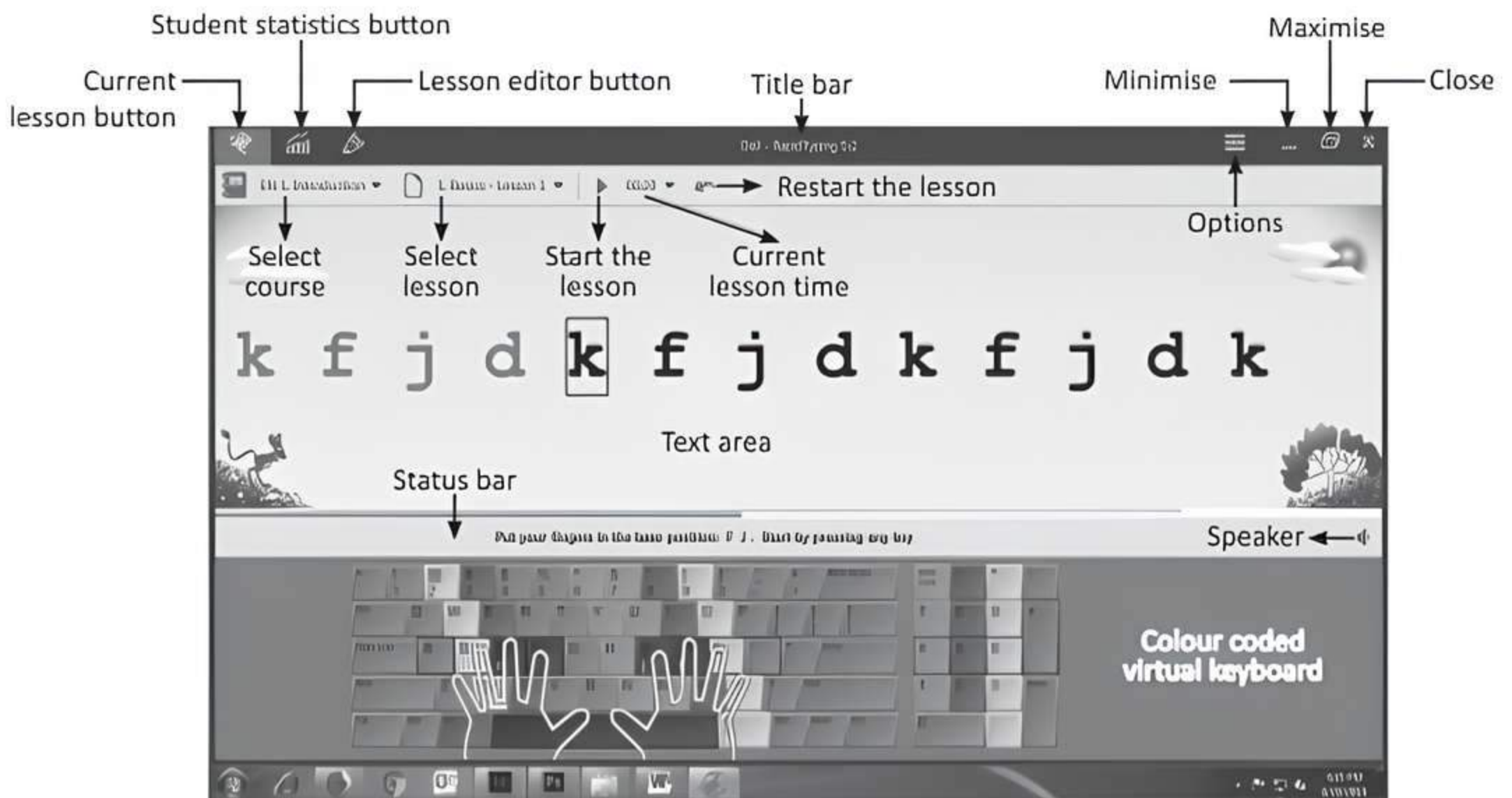


Fig. Rapid Typing Interface

► **Calculating the Typing Speed:** The typing speed can be measured using different accuracies which are as follows:

- Number of words typed for a certain time period (the least accurate).
- Number of characters typed for a certain time period.
- Number of keystrokes made for a certain time period (the most accurate).

Apart from these accuracies, the gross speed and net speed in typing are also considered. Thus, there are following types of typing speed:

- **WPM:** It refers to the number of words typed in one minute period of time.

$$\text{WPM} = \frac{(\text{Words without errors} + \text{Words with errors})}{\text{Time spent in minutes}}$$

- **Net WPM:** It refers to the WPM having no words with errors.

$$\text{Net WPM} = \text{WPM} - (\text{Words with errors} / \text{Time spent in minutes})$$

- **CPM:** It refers to the number of characters typed in a one minute period of time.

$$\text{CPM} = \frac{(\text{Characters without errors} + \text{Characters with errors})}{\text{Time spent in minutes}}$$

- **Net CPM:** It refers to the CPM without having characters with errors.

$$\text{Net CPM} = \text{CPM} - (\text{Characters with errors} / \text{Time spent in minutes})$$

- **KPM:** It refers to the number of keystrokes in a one minute period of time.

$$\text{KPM} = \frac{(\text{Keystrokes without errors} + \text{Keystrokes with errors})}{\text{Time spent in minutes}}$$

- **Net KPM:** It refers to the KPM without having keystrokes with errors.

$$\text{Net KPM} = \text{KPM} - (\text{Keystrokes with errors} / \text{Time spent in minutes})$$

► **Typing accuracy:** Typing accuracy is defined as the percentage of correct entries out of the total typed entries. It is measured in terms of percentage accuracy in words, characters and keystrokes.

- Percentage accuracy in words

$$\text{Accuracy} = \frac{(100\% - \text{Words with errors} \times 100\%)}{\text{Total number of words}}$$

- Percentage accuracy in characters

$$\text{Accuracy} = \frac{(100\% - \text{Characters with Errors} \times 100\%)}{\text{Total number of characters}}$$

- Percentage accuracy in keystrokes

$$\text{Accuracy} = \frac{(100\% - \text{Incorrect keystrokes} \times 100\%)}{\text{Total number of words}}$$

- Sometimes, the typing accuracy is calculated or evaluated in terms of percentage errors.

- Percentage errors in words

$$\text{Errors\%} = \frac{\text{Words with errors} \times 100\%}{\text{Total number of words}}$$

- Percentage errors in characters

$$\text{Errors\%} = \frac{\text{Characters with errors} \times 100\%}{\text{Total number of characters}}$$

- Percentage errors in keystrokes

$$\text{Errors\%} = \frac{\text{Incorrect keystrokes} \times 100\%}{\text{Total number of keystrokes}}$$

► **Typing Rythm:** Typing rythm is important in the touch typing techniques. It means that the keystrokes should come at equal intervals. Generally, the slowdown indicator is used to control the constant typing speed.

Percentage slowdowns are measured in the following three parts:

- Percentage slowdown in words

$$\text{Slowdown\%} = \frac{\text{Words with delay} \times 100\%}{\text{Total number of words}}$$

- Percentage slowdown in characters

$$\text{Slowdown \%} = \frac{\text{Characters with delay} \times 100\%}{\text{Total number of characters}}$$

- Percentage slowdown in keystrokes

$$\text{Slowdown \%} = \frac{\text{Keystroke delay} \times 100\%}{\text{Total number of keystrokes}}$$

Practice Exercise

? Multiple

Choice Questions

- Q 1. is the most common text-based input device.
- a. Keyboard b. Mouse
c. Scanner d. Mic
- Q 2. Which method of typewriting is a method of typing without using the sense of sight to find the keys?
- a. See Method b. Feel Method
c. Touch Method d. None of these
- Q 3. A knows the location on the keyboard through muscle memory.
- a. see typist b. feel typist
c. touch typist d. None of these
- Q 4. Touch typing can be done with hand.
- a. one b. two
c. Both a. and b. d. None of these
- Q 5. Typing speed of Anil is 45 WPM. Full form of WPM is
- a. Words parts Minute b. Words per Minute
c. Words per Master d. None of these
- Q 6. Which of the following is an input device?
- a. Touchscreen b. Mouse
c. Voice recognition d. All of these
- Q 7. Which of the following keys are used to move cursor?
- a. Alphanumeric keys b. Arrow keys
c. Caps Lock key d. Esc key
- Q 8. arrow keys available on keyboard.
- a. 1 b. 2
c. 3 d. 4
- Q 9. key deletes the character just to the left of the cursor.
- a. Delete b. Backspace
c. Esc d. Ctrl
- Q 10. key deletes the character at the current cursor position, but does not move the cursor.
- a. Delete b. Backspace
c. Both a. and b. d. None of these
- Q 11. Which of the following keys help to type character in uppercase?
- a. Caps Lock key b. Shift key
c. Both a. and b. d. Delete key
- Q 12. Special keys labelled F1 to F12 is called
- a. Return keys b. Function keys
c. Ctrl keys d. None of these
- Q 13. Numeric keypad can be locked or unlocked by
- a. Caps Lock key b. Num Lock key
c. Ctrl + Shift key d. Shift Key
- Q 14. Numeric Keypad is normally located on the side of computer keyboard
- a. right b. left
c. top d. None of these
- Q 15. Numeric keypad contains
- a. numbers 0 to 9
b. addition (+), subtraction (-), multiplication (°) and division (/) symbols
c. a decimal point (.)
d. All of the above
- Q 16. Alphabets are home keys for the left hand.
- a. ASDF b. ASD
c. ZXCV d. QWER
- Q 17. Alphabets are home keys for the right hand.
- a. LKJ b. (semi-colon) LKJ
c. POIU d. None of these
- Q 18. On a computer keyboard, keys 'F' and 'J' are called for left and right hand, respectively.
- a. Corner Keys b. Guide keys
c. Sub Keys d. Home Keys
- Q 19. To type capital letters, switch ON the Lock by pressing the key before typing.
- a. Caps b. Num
c. Ctrl d. Scroll
- Q 20. There are Shift key on the keyboard.
- a. 1 b. 2
c. 3 d. 4
- Q 21. Which of the following keys help to delete the text?
- a. Delete Key b. Backspace key
c. Both a. and b. d. None of these
- Q 22. Which of the following key bring the cursor to the beginning of new line?
- a. Return Key b. Shift Key
c. Home Key d. End Key
- Q 23. The is the small downward line that flickers in a sentence while typing.
- a. icon b. cursor
c. slip line d. image
- Q 24. Which of the following are point and draw device?
- a. Mouse b. Touch pad
c. Joystick d. All of these

- Q 25. On a numeric keypad, the number is the guide key.
a. 2 b. 5 c. 6 d. 4
- Q 26. Which of the following mouse pointer identifies a hyperlink?
a. Vertical line b. Arrow
c. Hand shape d. None of these
- Q 27. Selecting text and moving object can be done with mouse button.
a. right b. left
c. scroll wheel d. None of these
- Q 28. With the mouse button we can open a context menu for an item, if it is applicable.
a. right b. left
c. scroll wheel d. None of these
- Q 29. Which of the following is used to start a program or open a file or trigger an action?
a. Click b. Double Click
c. Left Click d. Triple Click
- Q 30. Which of the following is used to select an item?
a. Click b. Double Click
c. Scroll d. Triple Click
- Q 31. Which of the following operations can be done with mouse?
a. We can scroll the document.
b. We can open any file or folder
c. We can move the objects
d. All of the above
- Q 32. The thumb of the is used to operate the Space bar.
a. right hand b. left hand
c. Either a. or b. d. left foot
- Q 33. row of alphabets is called home row.
a. First b. Second
c. Third d. None of these
- Q 34. The two keys 'g' and 'h' on the second row are operated by the of left and right hand, respectively.
a. Forefinger (Index Finger)
b. Centre Finger
c. Ring Finger
d. Thumb
- Q 35. Which of the following set of characters or symbols constituting the home row?
a. a s d f g ; l k | p b. a s d f g ; l k | h
c. a s d f g ; l k o p d. a s d f g ; l k | i

? Fill in the Blanks

Type Questions

- Q 36. A touch typist knows the location on the keyboard through memory.
- Q 37. The typing speed is measured in
- Q 38. Alphabets (A–Z) and numbers (0–9) are known as keys.

- Q 39. Del key deletes the character at the cursor position.
- Q 40. A standard keyboard has Function keys.
- Q 41. Numeric keypad is used to enter data.
- Q 42. Page Up key is used to shift the one page up.

? Assertion and Reason

Type Questions

Directions (Q. Nos. 43-47): In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not correct explanation of Assertion (A).
c. Assertion (A) is true, but Reason (R) is false.
d. Assertion (A) is false, but Reason (R) is true.
- Q 43. **Assertion (A):** On pressing the caps lock key again, the caps lock light switches off, which indicates that the caps lock key is not active.
Reason (R): While typing, if you type incorrectly, then you can press the Delete key to erase the wrong letter. This key deletes the letter to the left of the cursor.
- Q 44. **Assertion (A):** The delete key is called Del, in short. There are two delete keys on the keyboard—one just above the spacebar key and the other in the numeric keypad.
Reason (R): Backspace key is used to delete the letter to the left of the cursor.
- Q 45. **Assertion (A):** Laptop keyboards often do not have a numpad but may provide numpad input by holding a modifier key and operating keys on the standard keyboard.
Reason (R): There are 16 function keys on a keyboard. These keys are placed on top of the keyboard and each of them performs a specific function.
- Q 46. **Assertion (A):** The rolling of the scroll wheel of a mouse, upwards or downwards, is called rolling.
Reason (R): Typing ergonomics is a technique to provide the logistic support for efficient and effective typewriting.
- Q 47. **Assertion (A):** While working on the computer, it is important to know the proper way of typing. This helps to take care of our body in a proper manner without injuring it.
Reason (R): The method of typing fast and in a fluent manner, without even looking at the keyboard is known as touch typing.

Answers

1. (a) 2. (c) 3. (c) 4. (c) 5. (b) 6. (d)
7. (b) 8. (d) 9. (b) 10. (a) 11. (c) 12. (b)
13. (b) 14. (a) 15. (d) 16. (a) 17. (b) 18. (b)
19. (a) 20. (b) 21. (c) 22. (a) 23. (b) 24. (d)
25. (b) 26. (c) 27. (b) 28. (a) 29. (b) 30. (a)
31. (d) 32. (c) 33. (b) 34. (a) 35. (b)
36. muscle
37. WPM (Words per Minute)
38. Alphanumeric
39. Current
40. 12
41. Numeric
42. Cursor
43. (c) 44. (d) 45. (c) 46. (d) 47. (b)

? Case Study Based

Questions

Case Study 1

The most prevalent text-based input device is the keyboard. Computer keyboards are just like typewriter keyboards, however, they have more keys. There are usually more than 100 keys on a keyboard. A single symbol is assigned to each key on a keyboard. Some symbols need the simultaneous or sequential pressing and holding of many keys. It allows you to type in alphabets, numbers.

The touch typing method is a typing method without using your sense of sight to find the keys. No need to search for the key while typing, all you have to do is move your finger to press a key. Typing speed generally improves with practice. The typing speed is often increased gradually and speeds of 60 WPM (words per minute) or higher may be achieved. The speed of speed increase varies between individuals. Many websites and software products (*e.g.*, Rapid Typing Tutor) are available to find out typing and plenty of those are free. There is much such software available which are freed from cost and are customised to be told typing efficiently and effectively. Keyboards are also used for computer games, either with normal keyboards or by using keyboards with special.

- Q1. The numeric keypad has columns and rows.
- four , five
 - five , four
 - five , five
 - four , four

Q2. On a numeric keypad, the number has a small raised tangible mark which serves as a guide for the touch typist in the placement of fingers on other keys.

- 2
- 5
- 6
- 4

Q3. number key on numeric keypad is to be pressed by the right-hand thumb.

- 1
- 2
- 3
- 0

Q4. Rapid Typing Tutor is a

- Proprietary Software
- Free and Open Source Software
- Shareware
- Malware

Q5. Keyboards usually have small protrusions on the keys. They help your fingers locate the base position without looking at the keyboard.

- F and K
- G and J
- F and J
- F and H

Answers

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

Case Study 2

Keyboarding is one of the most valuable skills a prospective job-seeker can learn. It is not enough to simply know how to type; proper keyboarding technique and efficiency in typing are essential in today's business world. If you did not learn proper typing technique during your education, don't worry: There are plenty of resources available online to help learners of all ages improve their typing speed and skills.

The vast majority of jobs on the market today will require the use of a computer in some form. Any administrative office job or customer service position requires strong typing skills, as do careers like library science, education, information technology, and jobs in the medical profession. In fact, many employers require prospective employees to be able to type at a specified number of words per minute (WPM). Most of the time, the only way to achieve the required WPM is through a practice known as touch-typing.

Q1. Finger allocated to alphabet 'Q' on keyboard is

- left hand little finger
- left hand ring finger
- right hand little finger
- left hand index finger



- Q 2. Finger allocated to alphabet 'O' on keyboard is
- right hand little finger
 - left hand ring finger
 - right hand ring finger
 - right hand index finger
- Q 3. Out of 'Q', 'W', 'E', 'R', 'T' keys is pressed by same fingers?
- 'E' and 'R'
 - 'E' and 'W'
 - 'T' and 'R'
 - 'Q' and 'W'
- Q 4. Which of the following rows in keyboard has more number of alphabets?
- First Row
 - Home Row
 - Thrd Row
 - None of these
- Q 5. Which of the following rows in keyboard has least number of alphabets?
- First Row
 - Home Row
 - Thrd Row
 - None of these

Answers

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

Case Study 3

Rapid Typing is a convenient and easy-to-use keyboard trainer that will help you improve your typing speed and reduce typos. With its lessons organised for various student level, Rapid Typing will teach you touch typing or enhance existing skills. Typing tutor can be used both in the classroom under the guidance of teacher, as well as for self-study. Available export the training statistics in the different formats and creating your own training courses.

Rapid Typing Tutor helps you improve your typing speed through a variety of exercises designed for users of all different skill levels. You can start at any level you feel comfortable with, and even if you have no experience typing at all, you'll quickly gain familiarity with the keyboard using this program. This program presents lessons categorised from Beginner to Advanced, but it also lets you choose where to start and what lessons you'd like to repeat. If you're just starting out, you can complete the lessons in order and build on what you learned in each. But if you already have some experience, you can experiment with different levels until you find the one that challenges you and helps you improve your skills.

- Q 1. What does green colour shows in Result dialog window of Rapid Typing Tutor?
- Q 2. What does red colour shows in Result dialog window of Rapid Typing Tutor?

- Q 3. What is the shortcut to see your CPM speed in Rapid Typing Tutor Software?
- Q 4. What is the shortcut to see your WPM speed in Rapid Typing Tutor Software?
- Q 5. Name some components of Rapid Typing Tutor Window?

Answers

- In Result dialog window of Rapid Typing Tutor, green colour shows right inputs.
- In Result dialog window of Rapid Typing Tutor, green colour shows wrong inputs.
- Ctrl + 1
- Ctrl + 2
- Name of components of Rapid Typing Tutor Window are as follows:
 - Three vertical buttons
 - Three horizontal buttons
 - Virtual Keyboard

Case Study 4

A computer keyboard is an input device that allows a person to enter letters, numbers and other symbols (together, these are called characters) into a computer. It is one of the most used input devices for computers. Using a keyboard is often called typing.

A keyboard contains many mechanical switches or push-buttons called "keys". When one of these are pushed, an electrical circuit is closed and the keyboard sends a signal to the computer that tells it what letter, number or symbol it would like to be shown on the screen. The computer then shows the character on the screen, usually at the place where the flashing text cursor is.

Besides entering characters, computer keyboards also have special keys that change the symbol (such as shift or caps lock) or give the computer special commands (such as the arrow keys, Ctrl and Alt). Different computer operating systems use different special keys, or use them differently. Special commands can also be activated through combinations of keys, called keyboard shortcuts.

- Q 1. What are alphabet keys?
- Q 2. Define numeric keys.
- Q 3. What are punctuation keys?
- Q 4. What is cursor?
- Q 5. Name all types of cursor control keys.

Answers

- The alphabet keys are from the letter 'A' to 'Z', but they are not in the same order. We can type letters and sentences using the alphabet keys. There are a total of 26 alphabet keys on a keyboard.



2. The numeric keys have the numbers 0-9, written on them. We can type our age, the roll number, the height and many more, using these keys.
3. The keys associated with punctuation, such as the comma (,), period (.), semicolon (;), brackets ([]) and parenthesis (()) and so on come under this category. Also, all of the mathematical operators such as the plus sign (+), minus sign (-), multiplication sign (*), division sign (/) and equal sign (=) come under this category.
4. A cursor is a small blinking line on the monitor that shows the current position of the text, to be entered.
5. There are four cursor control keys on a keyboard: Left, Right, Up and Down. These keys can move the cursor left, right, up and down while working on the computer. These keys are also called the arrow keys or direction keys.

? Very Short Answer

Type Questions

Q 1. What is mean by Data entry?

Ans. Data entry is the process of inputting data or information into the computer using devices such as a keyboard, scanner, disk and voice, using specific software.

Q 2. Define keyboarding.

Ans. Keyboarding is a technical skill that is quickly becoming central in education, the marketplace, and in people's lifestyles.

Q 3. What is keyboard?

Ans. The keyboard is the most common and a very popular input device that enables a user to input data and instructions to the computer. It is used to input the text and numerical data.

Q 4. What is Shift key?

Ans. The Shift key is used along with the other keys to type special symbols and capital letters.

Q 5. What are toggle keys?

Ans. A toggle key has two possibilities, that is, ON or OFF, depending on the current setting. **For example,** if the Caps Lock is already on, then pressing the Caps Lock key turns it off. If Caps Lock is off, then pressing the Caps Lock key turns it on.

Q 6. Define Delete key.

Ans. While typing, if you type incorrectly, then you can press the 'Delete' key to erase the wrong letter. This key deletes the letter to the 'right' of the cursor.

Q 7. Define Guide keys.

Ans. On a computer keyboard, keys 'F' and 'J' are called guide keys for left and right hand, respectively. These keys contain a small raised tangible mark with the help of which the touch typist can place the fingers correctly on the home keys.

Q 8. What is mean by scroll mouse?

Ans. A scroll mouse has a small wheel in between the left and the right buttons. This wheel is known as the scroll wheel. We can move a page up and down by moving this scroll wheel.

Q 9. What is mean by touch typing?

Ans. The method of typing fast and in a fluent manner, without even looking at the keyboard is known as 'touch typing'.

Q 10. What is rating pane in rapid typing tutor?

Ans. The rating pane displays overall rating along with the typing speed and typing accuracy.

Q 11. Write all the steps to delete a lesson.

Ans. Perform the below mentioned steps to delete a lesson:

Step 1: Select the lesson that you want to delete in the Navigation tree.

Step 2: Click on the Remove selected lesson or course button to delete the lesson. The selected lesson will be deleted.

Q 12. Write all the steps for deleting a course.

Ans. Perform the below mentioned steps to delete a course.

Step 1: Select the course that you want to delete in the Navigation tree.

Step 2: Click on the Remove selected lesson or course button to delete the course.

Q 13. Define Net CPM.

Ans. Net CPM refers to the CPM without having characters with errors.

Net CPM = $\frac{\text{CPM (Characters with errors/Time spent in minutes)}}{\text{CPM}}$

Q 14. Define Net KPM.

Ans. Net KPM refers to the KPM without having keystrokes with errors.

Net KPM = $\frac{\text{KPM (Keystrokes with errors/Time spent in minutes)}}{\text{KPM}}$

Q 15. What is mean by WPM?

Ans. WPM refers to the number of words typed in one minute period of time.

WPM = $\frac{\text{(Words without errors + Words with errors)}}{\text{Time spent in minutes}}$

Q 16. Define the term typing accuracy.

Ans. Typing accuracy is defined as the percentage of correct entries out of the total typed entries. It is measured in terms of percentage accuracy in words, characters and keystrokes.

Q 17. What is typing rhythm?

Ans. Typing rhythm is important in the touch typing techniques. It means that the keystrokes should come at equal intervals. Generally, the slowdown indicator is used to control the constant typing speed.

? Short Answer

Type Questions

Q 1. How keyboarding skills can help us?

Ans. Keyboarding skills can help us in our present academic responsibilities, ensure our future career prospects and even help our personal development. Not only will we protect our health by learning how to touch-type correctly, but also boost our productivity and focus and have a means to easily acquire and master other skills and talents.

Q 2. Describe the layout of the keyboard.

Ans. The layout of the keyboard is like that of a traditional typewriter, although there are some additional keys such as the Function keys, Spacebar key, Shift key, Ctrl key, Arrow movement keys, Home, End, Delete, Page up, and Page down to perform the additional functions.

Q 3. Define flexible keyboard or roll-up keyboard.

Ans. Flexible keyboard or roll-up keyboard type of keyboard is made of silicon material that can even be folded. The roll-up computer keyboards are extremely good for travelling as you can easily roll them down when you need them and roll them up when you do not need them.

Q 4. What are the two modes of numeric keypad?

Ans. Numeric keypad usually operates in two modes. When num lock is off, keys 8, 6, 2 and 4 act like arrow/navigation keys up, right, down and left and 7, 9, 3 and 1 act like Home, Pg Up, Pg Dn and End respectively. When num lock is on, digit keys produce the corresponding digit. So, num lock is provided to switch between the two modes.

Q 5. What are home keys?

Ans. Alphabets ASDF are the home keys for the left hand and JKL; are for the right hand. The fingers are trained to make the correct movement to other keys and each finger returns immediately to its respective home key after pressing the corresponding key in any other row.

Q 6. How to hold a mouse?

Ans. To use a mouse, we simply grip it in the palm of our hand and move it from side to side. As we move the mouse, the pointer can be seen moving on the screen. It moves so fast from one corner of the screen to the other that it gives the impression of a mouse running around.

Q 7. What is meant by Typing Ergonomics?

Ans. Typing ergonomics is a technique to provide the logistic support for efficient and effective typewriting. It looks at the correct set-up of desk equipment as well as posture and how to correctly type at a desk. The aim is to reduce the strain, stress and wear and tear of joints while typing. All this is important to attain and maintain accuracy and speed.

Q 8. What is the Rapid Typing Tutor?

Ans. The Rapid Typing Tutor is touch typing training software that is available for free of cost on the Internet. It can easily be downloaded and installed on any computer. It is efficient typing software that teaches typing through fun and interactive typing games.

Q 9. Write the steps to start the Rapid Typing Tutor.

Ans. Perform the below mentioned steps to start the Rapid Typing Tutor:

Double-click on the shortcut icon of the Rapid Typing software to open the Rapid Typing software.

Or

Click on the **Start** button → **All Programs** → **RapidTyping 5** to open the Rapid Typing Tutor.

Q 10. What is accuracy pane in Rapid Typing Tutor?

Ans. Accuracy pane shows the statistics based on the accuracy of the lesson such as accuracy while pressing the keystrokes or errors while pressing the keystrokes, etc.

Q 11. Define errors overview.

Ans. The errors overview tab can be used to see the errors that were being made while practicing the typing lesson.

The colour coding used by this tab is as follows:

- **Red Colour:** The characters displayed in the red colour are the characters that were typed wrong.
- **Green Colour:** The characters displayed in the green colour are the characters that were typed right.

Q 12. Write the steps to save a lesson in the lesson editor.

Ans. Perform the below mentioned steps to save a lesson in the lesson editor:

Step 1: Select the lesson created by you in the Navigation tree.

Step 2: Click on **Save selected lessons...** option from the Lesson menu.

Step 3: The **Save as** dialog box will appear. Select the location where you want to save the lesson. Type the name for the lesson in the **File name** section and click on the **Save** button to save the lesson.

Q 13. Define overall rating.

Ans. Overall rating is measured in terms of net speed and course goal : speed.

Overall rating (%) = $(\text{Net speed} / \text{course goal : speed}) \times 100\%$

Where,

Net speed, Net WPM, Net CPM or Net KPM and the value depends on the current options.

Course goal: speed is customised in the options for each course.

An average professional typist types usually in speeds of 50 to 80 WPM, some can require 80 to 95 while the advanced typists work at speeds above 120 WPM.

? Long Answer

Type Questions

Q 1. What are the various functions that can be done using keyboard?

Ans. Functions Using Keyboard are as follows:

- **Typing and Deleting Text:** For typing text in a document, we should click the letters on the keyboard. For deleting text in a document, we should use the Backspace key or Delete key. The Backspace key will remove text from behind (to the left of) the cursor position. For typing numbers in a document, we should use the numeric keypad or the numeric keys on the keyboard.
- **Typing Symbols:** To type specific symbols, press and hold the key and then press the key with the required symbol. The Shift key is used to access the top symbols that are one of the keys with two characters.
- **Typing Capital Letters:** To type capital letters, switch on the Caps Lock by pressing the key before typing. A light will shine on the top right side corner of the keyboard that shows Caps Lock is on. To switch it off, again press the Caps Lock key before typing.
- **Typing Sentences:** To get space between typed words, press the Spacebar key once and then type the next word. The Enter key is used to create new lines and give spaces between paragraphs. In this case, make sure that the cursor is flashing from a new line.
- **Guide for Typing:** The cursor control keys serve as a guide for typing. They can be used to move the position of the cursor.

Q 2. Define various mouse action.

Ans. There are five mouse actions which we can perform using a mouse:

- **Single-click:** Pressing the mouse button is called Clicking. When we press the left mouse button once and release, it is called a **single-click**. This click is used to select an icon on the monitor. **For example**, when we single-click on the Start button, the start menu opens up.
- **Double-click:** Pressing the left mouse button twice quickly and releasing it, is called double-click. This click is used to open an icon on the monitor. **For example**, if we move the mouse pointer on the Recycle Bin icon on the monitor and double-click, the Recycle Bin window will open.
- **Right-click:** Pressing the right mouse button once and releasing it, is called a right-click. It shows a list of commands on the monitor. **For example**, if we move the mouse pointer on the Recycle

Bin icon on the monitor and right-click it, a list of commands gets displayed.

- **Drag and Drop:** Drag and drop is used to move an item present on the screen, to a new location.
- **Scrolling:** The rolling of the scroll wheel of a mouse, upwards or downwards, is called scrolling. To move a page up or down, we scroll the mouse.
- **Blocking:** Blocking is another way of selecting text. It is used to select text that needs to be edited or formatted. Click at the beginning of the word or sentence and hold down the left button, then drag along the text and see it being highlighted in black. At the end of the text or sentence, release the left button.

Q 3. Describe the correct Sitting Posture while working on the computer.

Ans. While working on the computer, it is important to know the proper way of typing. This helps to take care of our body in a proper manner without injuring it. Some guidelines related to correct sitting posture are as follows:

- The ideal sitting position should be straight with a slight recline with back on back support. This opens up the blood circulation.
- Forearms should be parallel to the floor with your feet resting on the floor or on a footrest. This will ensure good stability and support.
- Knees should be bent at 90 degrees. There should be sufficient space between the edge of the seat and back of the knees for good blood circulation.
- Thighs should be parallel to the floor. The lower back can be supported with a rolled-up towel.
- If your work involves sitting for long hours, you should consider a good ergonomic office chair or a kneeling chair. These chairs are designed to keep your body in a better posture and put less strain on your body.

Q 4. Define the correct positioning of fingers on the keyboard.

Ans. Positioning of Fingers on the Keyboard: As typing is equivalent to pen or pencil now-a-days, mastery of computer keyboard has become obvious. Mastery typewriting skills means to attain necessary knowledge and skill of keyboard operation by correct positioning of fingers. Certain rules which are followed are as under:

- When working with a keyboard, your forearms should be horizontal to the keyboard.
- The keyboard should be easily accessible while sitting without having to reach. A good position of hands is either parallel or slightly below the elbow. The finger should rest on the second row of keyboard letters.
- Starting from pinky finger resting on A, put the next on S, next finger on D and index finger on F.



- The left side index finger should rest on J, the next on K, then L and the pinky finger should rest on the semicolon.
- Thumbs of both hands should rest on the space bar.
- The movement of fingers would be on vertical columns and sloping towards the left. Both the index fingers are responsible for an additional middle column of the keyboard.
- The left-hand pinky is responsible for all the keys on the left side and the right-hand pinky is used for all the keys on the right.
- Keep fingernails short for a smooth typing experience.

Q 5. Define Home row and also define allocation of keys to fingers on the second row.

Ans. The keyboard learning process starts from the second row (Home Row) followed by the Third Row (Upper Row), First Row (Bottom Row) and the Fourth Row (Number Row). The fingers of both the hands have to operate the keys allotted to them on each row. It must be remembered that each finger has to operate only the key allotted to it.

Allocation of Keys to Fingers on the Second Row (Home Row): The centre row of keys on the keyboard is termed as "home row". On the standard keyboard, "ASDFJKL;" are the home keys on the home row where the typist has to keep his/her fingers. These fingers return to their home after depressing other keys on the keyboard. The typist needs to hold the fingers lightly above the home keys. We have to practice the operation of Home Keys keeping in mind the following principles:

- Make your four fingers of both hands to hover around the home keys in such a way that they touch the keys lightly.
- Depress the keys of your left hand fingers and type: a s d f g.
- Depress the space bar with right thumb.
- Depress the keys allotted to your right hand fingers and type: ; l k j h.
- Letters 'f' and 'g' are typed by the left hand fore-finger while letters 'j' and 'h' are typed by the fore-finger of your right hand.
- Ultimately go on practicing: asdfg; lkjhasdfg; lkjh ASDFG : LKJH ASDFG : LKJH ASDFG : LKJH.
- The space bar is pressed with either thumb. Most people probably use only one thumb (right hand). The thumbs basically float comfortably in the air when not in use.

Q 6. Write procedure to download and install the Rapid Typing software

Ans. The Rapid Typing software can be downloaded from the Rapid Typing Tutor website. Perform the below mentioned steps to download and install the Rapid Typing software.

Step 1: Open a web browser on your computer.

Step 2: Type the following URL in the address bar of the web browser:

<http://www.rapidtyping.Com/downloads.html>

Step 3: Click on the green **Download Setup** button.

Step 4: Save the setup files on your computer.

Step 5: Click on the **Setup** icon to run the setup after the download is complete to install the Rapid Typing software.

Step 6: Install the Rapid Typing software by following the steps given by the Rapid Typing Tutor Setup.

Q 7. Write all the techniques for touch typing.

Ans. The process of touch typing technique can be divided into three different phases:

- **Phase 1:** Phase 1 emphasises on the practice of the **home row** keys. The row next to the Caps Lock is called the home row. In this phase, a touch typing learner learns to type the letters of the home row without looking at the keyboard. Once he/she has practiced the process of pressing the home row keys, he/she can move to the other rows such as upper row, lower row, number row, etc.
- **Phase 2:** In phase 2, a touch typing learner starts memorising frequently used syllables and typing words, containing these syllables.
- **Phase 3:** Phase 3 covers all the necessary techniques to master the touch typing skill.

Q 8. What is rating pane and also define the various bar of the rating pane in Rapid Typing software?

Ans. The rating pane displays overall rating along with the typing speed and typing accuracy.

The various bar of the rating pane in Rapid Typing software are as follow:

- **Topmost Bar:** The topmost bar of the Rating pane shows the overall rating scale. It also shows the progress ranging from the Could be better, OK, Good and Excellent. It uses the following formula for calculating overall rating.

$$\text{Overall rating} = (\text{Net speed}/\text{Course goal Speed}) \times 100\%$$
- **Second Bar:** The second bar of the rating pane shows the typing speed in terms of WPM (words per minute). It uses the following formula for calculating the typing speed.

$$\text{WPM} = (\text{Words without errors} + \text{Words with errors})/\text{Time spent in minutes}$$
- **Third Bar:** The third bar of the rating pane shows the accuracy of your typing lesson. It uses the following formula for calculating the accuracy.

$$\text{Accuracy} = (100\% - \text{Words with errors} \times 100 \%) / \text{Total number of words}$$
- **Last Bar:** The last bar of the rating pane shows the slowdown of your lesson. It uses the following formula for calculating the slowdown.

$$\text{Slowdown} = \text{Words with delay} \times 100 \% / \text{Total number of words.}$$

CHAPTER TEST

Multiple Choice Questions

- Q 1. CPM (in reference to typing) stands for
- a. Character per Minute b. Character Part Master
c. Course per Minute d. Course per Month
- Q 2. is defined as the percentage of correct entries out of the total entries typed.
- a. Accuracy b. Reading accuracy
c. Typing accuracy d. Writing accuracy
- Q 3. Ravi typed 240 characters per 2 min with errors in 20 characters. His Net typing speed is
- a. 120 cpm b. 110 cpm
c. 140 cpm d. 100 cpm
- Q 4. The fastest typing speed on an alphanumeric keyboard,..... words in one minute, was achieved by Stella Pajunas in 1946.
- a. 210 b. 216 c. 220 d. 200
- Q 5. Which of the following symbol can be typed without pressing Shift key?
- a. : b. { c. } d. @

Fill in the Blanks

- Q 6. On numeric keypad '0' is to be pressed by the thumb.
- Q 7. The numeric keypad has columns and rows.
- Q 8. Pressing the End key moves the cursor to the character of the line.

Assertion-Reason Type Questions

Directions (Q. Nos. 9-10): In the questions given below, there are two statements marked as Assertion (A) and Reason (R). Read the statements and choose the correct option.

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b. Both Assertion (A) and Reason (R) are true, but Reason (R) is not correct explanation of Assertion (A).
c. Assertion (A) is true, but Reason (R) is false.
d. Assertion (A) is false, but Reason (R) is true.
- Q 9. **Assertion (A):** When we want to type the capital letter of any English alphabet, we have to press the CTRL key along with that key.
- Reason (R):** Wired keyboards are attached with the CPU through a wire and wireless keyboards use wireless technology to get connected to a computer system.

Q 10. **Assertion (A):** Keyboarding skills can help us in our present academic responsibilities, ensure our future career prospects and even help our personal development.

Reason (R): Not only will we protect our health by learning how to touch-type correctly, but also boost our productivity and focus and have a means to easily acquire and master other skills and talents.

Case Study Based Questions

Q 11. The world is moving forward with rapid improvements in the latest technology. The importance of computer skills is at an all-time high, one skill in particular has become an ever increasing attribute from staff or a prospective candidate - Touch Typing. Touch Typing used to be a skill taught to people who wished to join the administration industry, now not only is it a must within this industry but every other industry can benefit from the skill.

As you are aware, most people who are working will come into contact with a computer during a standard working day. For some, this is a short time and others it can be all day. Now imagine if that invaluable time currently spent typing on your or your staff's computer was reduced or even halved! Instantly there is more time available for other tasks during the day, so if you have mounds of paperwork on your desk and you find yourself looking at it thinking 'this is going to take me all day', then developing the touch typing skill could be the answer.

The productivity of a business depends on how things are done faster. To complete your work faster it is important to develop typing skills. Typing helps you to work comfortably on the computer, it aids in communicating with colleagues and customers, creating documents, and finding new information.

- (i) Touch typing typically involves placing the fingers in a home row.
- a. 2 b. 4 c. 6 d. 8
- (ii) Which of the following is a toggle key?
- a. Caps Lock b. Num Lock
c. Both a. and b. d. None of these

(iii) Which of the following key has different meaning in different programs?

- a. Function Key b. Window key
- c. Alphabets Key d. None of these

(iv) There are shift keys available on the keyboard.

- a. three b. two c. one d. four

(v) Which of the following key is called return key?

- a. Shift Key b. Alt Key
- c. Ctrl Key d. Enter Key

Q 12. A beginner typist should start by focusing on the home row keys, which form the middle row of letters on the keyboard. Once the home row keys have been mastered, a keyboarding student should move on to mastering the top and bottom rows of letters, first with one hand and then alternating with both hands. An intermediate typist can move on to learning proper technique for the number row, punctuation and special symbols. At the intermediate level, a typist should be able to practice with phrases and sentences, rather than single words, and should begin learning to efficiently copy from written text.

Advanced typists will benefit from practicing with long sentences and paragraphs and should be focused on improving their WPM without sacrificing accuracy. An advanced student can also branch out into mastering 10-key typing, using the number pad at the side of the keyboard; some typists may also be interesting

in learning different keyboard layouts and typing techniques related to programming, which is best accomplished at an advanced level. At this stage, it is also helpful to learn common keyboard shortcuts so you can efficiently perform different functions while typing instead of stopping to click these options. A few seconds may not seem like much, but these time-saving techniques add up over the course of the work day.

- (i) Which keys are used to delete characters?
- (ii) Why do we use the spacebar key?
- (iii) Write the use of shift key.
- (iv) What is home row?
- (v) What actions does hover of mouse achieve?

Very Short Answer Type Questions

- Q 13. Define tab key.
- Q 14. What are two button and three button mouse?
- Q 15. Who invented touch typing?
- Q 16. Define Net WPM.

Short Answer Type Questions

- Q 17. Define Caps Lock key.
- Q 18. Define various types of cursor control keys on a keyboard.

Long Answer Type Questions

- Q 19. Define the correct placement of monitor, keyboard and mouse.
- Q 20. Define allocation of keys to fingers on the third row.

