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DIGIWARE 6

1 **Classification of Computers and Computer Languages**



A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. Super 2. PDAs, smart phones
 3. machine language 4. mnemonics, 0, 1 5. Assembler

D. Answer the following questions.

1.	Microcomputers	Minicomputers
	The computers that we generally see at different places like schools, colleges, offices and homes are called microcomputers. They are small computers that are used by one person at a time.	Minicomputers are more powerful than microcomputers. They are known as multiprocessing systems which can support up to 200 users simultaneously. It has greater storage capacity than a microcomputer. It may be used as a network and Internet Server.

2. (i) Super computers are the biggest and most powerful computers.
 (ii) Weather forecasting, fluid dynamic calculations, nuclear energy research, and petroleum exploration require a supercomputer.
3. Examples of high-level languages (HLLs) are ALGOL, COBOL, FORTRAN, ADA, C++, and Java, etc.



Let's Do This

A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. Insert 2. This Device
3. Screen Recording 4. Change colors

D. Answer the following questions.

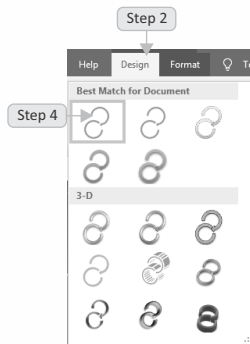
1. See topic 'Inserting an Audio File' on book page no- 14.
2. See topic 'Inserting a List' on book page no- 21.
3. To change the SmartArt style, follow the steps given below.

Step 1 : Click on the inserted SmartArt. The **Design** and **Format** tabs appear.

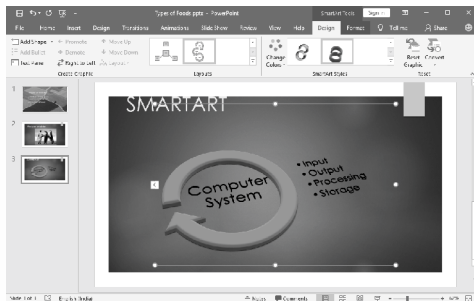
Step 2 : Click on the **Design** tab. Its ribbon appears.

Step 3 : Click on the **More** drop-down arrow of the **SmartArt Styles** group. A drop-down menu appears.

Step 4 : Click on the desired style and it will be applied on to the SmartArt. The style of the SmartArt gets changed.



A list of SmartArt styles



The style of the SmartArt changed

4. Action buttons are built-in button shapes that function much like hyperlink. We can link them to a file, slide, web address or e-mail address and so on. When someone click or move the pointer over an action button, the specified action will occur.

Fun Activity



Find and circle the following words extracted from this chapter in the word search given below.



HOTS



Slide Sorter view

3

Editing and Formatting in Excel



Let's Do This

A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. Shift cell right 2. Shift + F11 3. orientation
4. wrapping 5. cell styles

D. Answer the following questions.

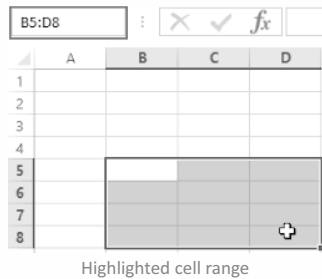
1. See topic 'Inserting column(s), Row(s) in A Worksheet' on book page no-36.
2. A group of adjacent cells is called a **cell range**.

To Select a Range of Cells

Step 1 : Select the first cell in the range which you want to select.

Step 2 : Click-and-hold the left mouse button and drag left or right, up or down to the last cell you want to select.

Step 3 : Release the mouse button. The cells get selected and are shown as Shaded. Alternately for selecting a cell range you may click on the first cell in the range and hold down the Shift key on the keyboard and select the last cell of the range to select the entire range.



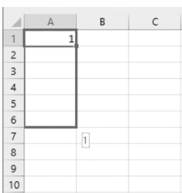
3. The **AutoFill** Feature of Excel allows you to quickly fill a range of cells with the same type of data or with the data that follows a pattern (series) without typing it.

To fill cells with a pattern, follows the steps given below.

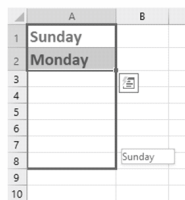
Step 1 : Type first two values in two adjacent cells to form a series.

Step 2 : Select both the cells and take the mouse pointer on the lower-right position. Cursor will be changed in fill handle shape.

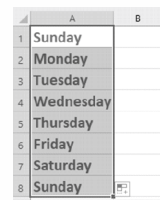
Step 3 : Drag the fill handle to enclose the area you want to fill. The series will appear in cells automatically according to first two numbers.



To fill same type of data



Filling the names of days of the week




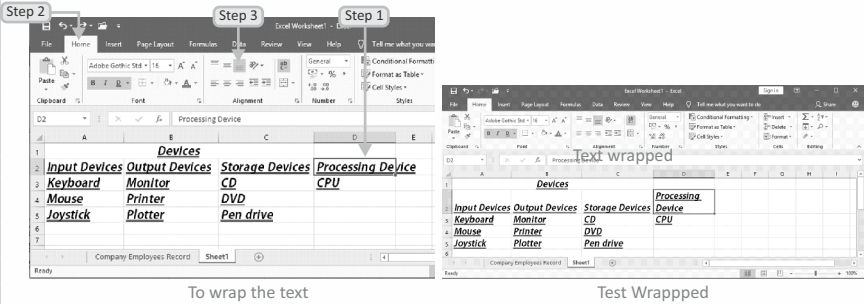
4. Wrapping is applied on to the text to display it in multiple lines in a cell. Wrapping text in a cell does not affect other cells.

To wrap the text, follow the steps given below.

Step 1 : Select a cell or a range of cells in which you want to wrap the text.

Step 2 : Click on the **Home** tab.

Step 3 : Click on the **Wrap Text**  option. The text in the selected cells will be wrapped in a single cell.



5. See topic 'Applying Cell Styles' on book page no- 42.

Fun Activity





- (a) F2 (b) Shift + Spacebar (c) Ctrl + Spacebar (d) Shift + F11
- Find and circle the following words extracted from this chapter in the word search given below.



HOTS



- Three ways to rename a worksheet:
 - Double-click the **sheet** tab, and type the new name.
 - Right-click the **sheet** tab, click **Rename**, and type the new name.
 - Use the keyboard shortcut Alt+H>O>R, and type the new name.
- Wrap text  and center Align .



Let's Do This

A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. cell references 2. Functions 3. equal to(=)
4. dollar(\$) 5. MIN()

D. Answer the following questions.

1. See topic 'Functions in MS-Excel' on book page no- 53.

2.

Absolute Cell Reference	Mixed Cell Reference
<p>Absolute cell reference contains dollar signs attached to each letter or number in a reference, e.g., \$B\$4. Suppose we mention a dollar sign before the column and row identifiers.</p> <p>It makes absolute or locks both the column and the row, i.e., where cell reference remains constant even if it is copied or dragged to another cell.</p>	<p>In Excel, mixed cell references contain dollar signs attached to either the letter or the number in a reference. E.g., \$B2 or B\$4. It is a combination of relative and absolute references.</p>

3. Excel **formulae** are the expressions that are used for doing calculations on the worksheet data. You can easily create and use formulae in Excel 2016.

Rules to Enter a Formula

The different rules to enter a formula are as follows:

- i. Every Excel formula begins with an equal to sign (=).
 - ii. The '=' sign can be followed by a number, cell address, cell range, mathematical operator or function and so on.
 - iii. There must be no space between the equal to (=) sign and the operands.
4. See topic 'Using the Formulae' on book page no- 48.

5. With AutoFill, You can quickly and easily fill in a range of cells with a series of values without entering them one at a time.

Fun Activity



Solve the crossword using the clues.



HOTS



Write the functions needed to do the following calculations.

- Find the sum of a range of cells **SUM (range)**
- Function used to convert text string into upper case **UPPER (text)**
- Find the maximum from given numbers **MAX (range)**

5 Algorithm and Flowchart



Let's Do This

A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Match the following:

- | | | |
|---------------------|---|---------------|
| 1. Input/Output box | → | Oval |
| 2. Flow Lines | → | Diamond |
| 3. Decision box | → | Rectangle |
| 4. Terminal Symbol | → | Parallelogram |
| 5. Processing Box | → | Arrow |




D. Fill in the blanks using the help box.

- | | | |
|---------------|------------------|---------------|
| 1. Algorithm | 2. flow line | 3. flow chart |
| 4. processing | 5. parallelogram | |

E. Answer the following questions.

1. Algorithm is the step-by-step instructions written in simple language to perform a particular task. These set of instructions when written in any programming language, become a computer program. So, algorithm is an important part of program development.
2. There are some guidelines for writing an algorithm. These guidelines or rules make algorithms easy to understand by different people. While writing an algorithm, follow the given rules:
 - Number the statements such as Step 1, Step 2, etc.
 - Always begin with the word Start.
 - Write the statements clearly.

3.

Symbol	Name	Description
	Start/ Stop Box	The Oval shaped Terminal Box is used to indicate the start and the end of a flowchart.
	Input/ Output Box	The parallelogram shaped input/output box, as the name suggests, is used to show the input and output related steps in a flowchart.
	Processing Box	The rectangular shaped processing box is used to show the processing step (calculations, data manipulation, and so on) in a flowchart.

4. The rectangular shaped processing box is used to show the processing step (calculations, data manipulation, and so on) in a flow chart.

5. Rules of Flow chart

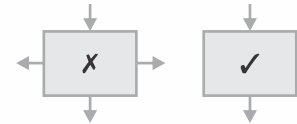
- (i) It flows from top to bottom and left to right.
- (ii) It is arrow which indicates the flow and pattern of information.
- (iii) If your flowchart is too long to adjust in one sheet then connector can be used.
- (iv) Crossing flow lines do not indicate that there is any logical connection between those lines.
- (v) Ensure that the flowchart has a logical start and finish.

Fun Activity

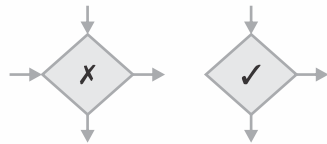


1. Given below are some flowchart symbols. Tick the correct one and put a cross against the incorrect symbol.

A.

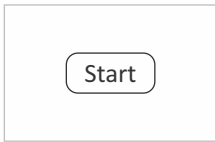


B.

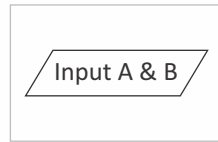


2. Draw the flowchart symbols for the following.

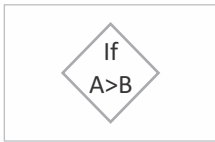
A. Start



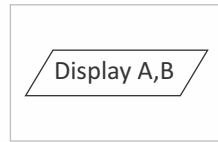
B. Input A, B



C. If $A > B$



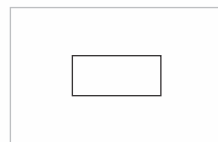
D. Display A, B



E. Stop

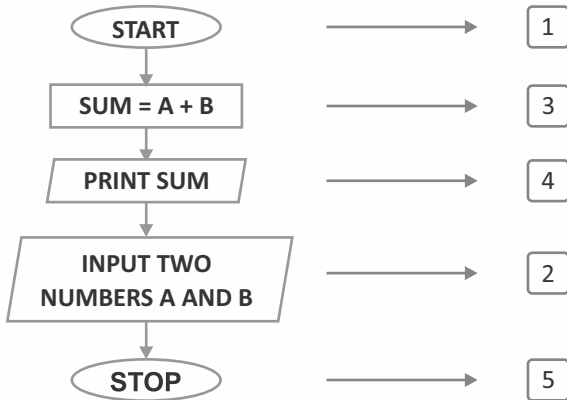


F. Processing



HOTS

First Generation Languages

**6****Introduction to Python****Let's Do This****A. Multiple Choice Questions.**

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. Guido Van Rossum 2. String 3. Assignment
4. Input () 5. Variable

D. Answer the following questions.

1.
 - Python is a high-level language. It is a free and open-source language.
 - It is an interpreted language, as Python programs are executed by an interpreter.
 - Python uses indentation for blocks and nested blocks.
2. Python has two basic programming modes:
 1. Interactive mode
 2. Script mode

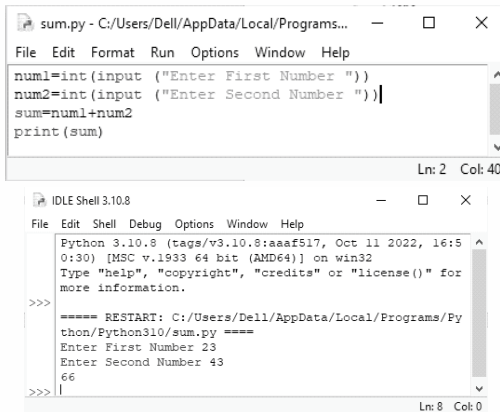
Working in Interactive mode

The Interactive mode is the default mode. It is a command line shell which gives immediate result for each command. In Interactive mode, we type one command at a time. Python executes the given command and gives the output.

Working In Script Mode

In the script mode. We can write a Python program in a file, save it and then use the interpreter to execute it. Python Scripts are saved as files where file name has extension “.py”.

3. See topic ‘Variables in Python’ on book page no- 75.
4. To work with the values provided by the user, Python provides the int() function. When you use int() function, the values are converted to integers and are then added as shown below.



The image shows two windows from the Python IDLE environment. The top window is a text editor titled 'sum.py' containing the following code:

```
num1=int(input ("Enter First Number "))
num2=int(input ("Enter Second Number "))
sum=num1+num2
print (sum)
```

The bottom window is the 'IDLE Shell 3.10.8' showing the execution of the script. It displays the Python version and system information, followed by a restart message and the execution of the script. The user enters '23' for the first number and '43' for the second number, and the output is '66'.

```
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:5
0:30) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for
more information.
>>>
===== RESTART: C:/Users/Dell/AppData/Local/Programs/Py
thon/Python310/sum.py =====
Enter First Number 23
Enter Second Number 43
66
>>>
```

In this program, when you run the source code, the sum of 23 and 43 shows 66 as the given value converts into integer using int() function so '+' operator performs the addition between entered values.

5. In Python strings, the **backslash** '\ ' is an escape character. You can use print statement with multiple escape sequences. For example, '\t' means a tab space and '\n' means newline character.

Fun Activity



Which of the following identifier names are invalid and why?

1. Serial_no Valid The first character of the identifier can only begin with a letter (a-z, A-Z) or an underscore (_).
2. 1st_Room Invalid Identifier name cannot start with a number.
3. Hundred\$ Invalid Identifier name must not contain special character.

4. Total Marks Invalid Identifier name must not contain any white-space.
5. Total_Marks Valid The first character of the identifier can only begin with a letter (a-z, A-Z) or an underscore (_).

HOTS



```
name 1 = input("Enter name 1 :")  
name 2 = input("Enter name 2 :")  
name 3 = input("Enter name 3 :")  
name 4 = input("Enter name 4 :")  
name 5 = input("Enter name 5 :")
```

7

Intelligence and AI Approaches



Let's Do This

A. Multiple Choice Questions.

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

B. State true 'T' or false 'F'.

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

C. Fill in the blanks.

1. Artificial Intelligence 2. Interpersonal 3. Siri, Cortana
4. Intelligence 5. Deep Blue

D. Answer the following questions.

1. Intelligence is the ability of a system to calculate, reason, perceive relationships and analogies, learn from experience, store and retrieve information from memory, solve problems, comprehend complex ideas, use natural language fluently, classify, generalize, and adapt new situations. It refers to the ability to think, to learn from previous experience, to solve complex problems and to adapt new things and environment..
2. Super AI is a level of Intelligence of Systems at which machines could surpass human intelligence, and can perform any task better than human with cognitive properties. It is an outcome of general AI. Some key characteristics of strong AI include capability include the ability to

think, to reason, solve the puzzle, make judgments, plan, learn, and communicate by its own.

Super AI is still a hypothetical concept of Artificial Intelligence. Development of such systems in real is still world changing task.

3.

General AI	Narrow AI
<ul style="list-style-type: none">▪ It also know as strong AI.▪ It refers to AI systems that possess human-level intelligence or even surpass human intelligence across a wide range of tasks.▪ It would be capable of understanding, reasoning, Learning and applying knowledge to solve complex problems.	<ul style="list-style-type: none">▪ It also known as weak AI.▪ It is specialized AI, operators within a limited context and is a simulation of human intelligence applied to a narrowly defined problem.▪ Narrow AI is often focused on performing a single task extremely well.

4. Advantages Of Artificial Intelligence

Following are some main advantages of Artificial Intelligence.

- High accuracy with less errors:** AI machines or systems are prone to less errors and high accuracy as it takes decisions as per pre-experience or information.
- High speed:** AI systems can be of very high speed and fast decision making, because of that AI systems can beat a chess champion in the chess game.

Disadvantages Of Artificial Intelligence

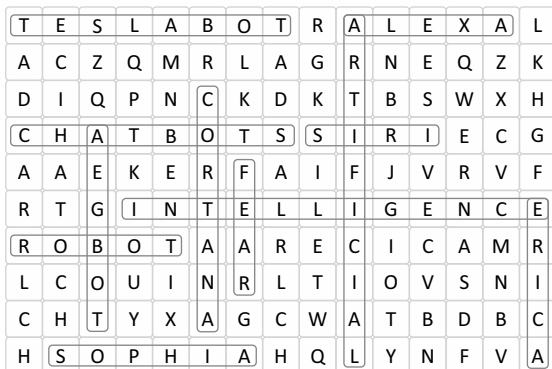
Every technology has some disadvantages, and the same goes for Artificial Intelligence. Being so advantageous technology still, it has some disadvantages which we need to keep in our mind while creating an AI system. Following are the disadvantages of AI.

- High cost:** The hardware and software requirement of AI is very costly as it requires lots of maintenance to meet out the current world requirements.
 - Can't think out of the box:** Even we are making smarter machines with AI, but still they cannot work out of the box, as the robot will only do that work for which they are trained or programmed.
5. Verbal-linguistic approach means the ability to speak, recognize, and use mechanisms of phonology (speech sounds), syntax (grammar), and semantics (meaning).

Fun Activity



Search and find following words extracted from this chapter in the wordsearch given below. See across and downward.



HOTS



Naturalistic Intelligence

8

Internet Services & Safety



Let's Do This

A. Multiple Choice Questions.

- (c)
- (c)
- (b)
- (c)
- (c)

B. State true 'T' or false 'F'.

- F
- T
- F
- T
- T

C. Fill in the blanks.

- 1969
- e-mail
- search engine
- Plagiarism
- play store

D. Answer the following questions.

- See topic 'Popular Services on the Internet' on book page no- 93.
- (a) WWW is the acronym for World Wide Web which is used sometimes interchangeably with Internet. But there is an essential difference between these two terms. Internet on one hand is a huge collection

of complicated networks, which are connected to each other physically using cables, satellites, microwaves, radio waves, etc. The WWW on the other hand consist of a collection of documents containing interlinked information, which acts as a resource for the Internet.

- (b) Search engines are specially programmed websites that are designed to help people find information on the web. Search engine is a special program that searches the web for search terms given by us and displays a list of websites. The most popular search engines are Google, Bing, Ask, Altavista and MSN search.
 - (c) Flickr (www.flickr.com) is the most popular photo sharing site. It allows you to edit your photos, organize them into albums, create cards and books, and control the viewers of your photos. A free Flickr account enables you to upload 1TB of photos. You can upgrade to a Pro account, which is a paid account that offers unlimited uploads and storage.
3. See topic 'How do Search Engines work?' on book page no- 99,100.
 4. Identity Theft cases have been growing rapidly in the last few years. In Identity Theft, someone steals your identity. This is done to either harm you directly or steal your personal information. If someone knows passwords to any of your accounts, they could easily log in and steal your personal data.
 5. Cyber Safety Rules
 - Create a strong password for all platforms. Try to create unique passwords. Most importantly, the passwords are not related at all. In this way, hackers will not succeed in their password guessing methodology.
 - Always read the terms and conditions of any site. In this way, you will know whether your information will be collected or not.
 - Never type your financial information on any site, especially, if the site lacks padlock on the page.

Fun Activity



- ISP : Internet Service Provider
VSNL : Videsh Sanchar Nigam Limited
WWW : World Wide Web
URL : Uniform Resource Locator

HOTS



Do yourself.