Dear Students!!

In this e-book of 9th class, study material of computer science is being sent to you as per new syllabus (2023-24). You can easily prepare your test / papers by reading these notes and watching the video lectures given below. Following are the links of the video lectures in blue colour. Watch these video lectures by clicking on the relevant link of chapter to have better understanding of various concepts.

9th Class - Computer Science Syllabus & Video Lecture Links (Pbi)

Video Lecture's Playlist Link of Computer Science for 9th Class:

https://youtube.com/playlist?list=PLja3EaJFAjmYwpD9b_D9520GLE9BwEHsZ

Chapter-wise Links of Video Lectures:

Chapter -1 Networking   https://youtu.be/U1LCLGC0Kc8

Chapter -2 Internet Applications   https://youtu.be/4zjjeo4HCRs

Chapter -3,4,5,6 Video Lectures for MS Excel

         Part-1   https://youtu.be/AvSCtIOzSx0

         Part-2   https://youtu.be/eaaZ65WrF_U

Video Lectures for Excel Practical:

         Part-1   https://youtu.be/8ioY-a6i5MY

         Part-2   https://youtu.be/7gAz1jELgmo

Chapter -7 E-Governance   https://youtu.be/U4Zah7au2Es

Chapter -8 Intro to Database   https://youtu.be/sWCvejbp0hI

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▶ YouTube   **http://youtube.com/c/computersciencepunjab**

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Please use the following link to download the study material/e-books/e-contents for 6th to 12th classes:

http://cspunjab.nirmancampus.co.in/study.php

Chapter 5th – Microsoft Excel (Part-III)

Que:1 Fill in the blanks:

1. Each function or formula must start with _____ symbol in MS Excel.
   - A. +
   - **B. =**
   - C. &
   - D. ^

2. Which function of MS Excel can be used to find minimum no from given range?
   - A. Minimum
   - B. Mid
   - **C. Min**
   - D. None of these

3. Ampersand (&) symbol is an alternate of _____ function in MS Excel.
   - A. Sum
   - B. And
   - **C. Concatenate**
   - D. Power

4. Which data tool can be used to have only distinct values in a particular column?
   - A. Data Validation
   - B. Text to Columns
   - C. Formula
   - **D. Remove duplicates**

5. Which one is an example of Arithmetic Operator?
   - A. +
   - B. %
   - C. ^
   - **D. All of these**

Que:2 Write True or False:

1. We cannot count blank cells in MS Excel. **False**
2. Formula is an expression of operators and operands to perform calculations. **True**
3. SUM function can be used to perform addition of values in a particular range. **True**
4. Text to columns option can be used to split our contents in multiple cells. **True**
5. NOW function returns current date and time in MS Excel. **True**
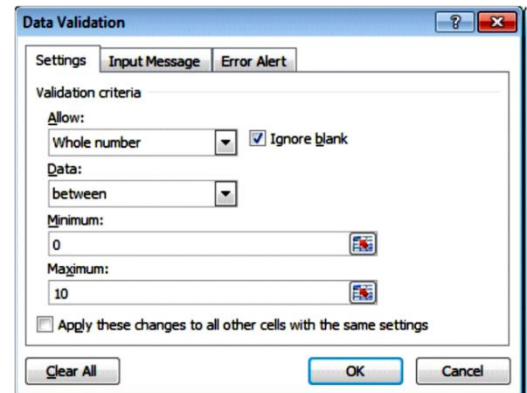
Que:3 Short Answer Type Questions:

Q:1 Write arithmetic operators being used in MS Excel.

Ans: Arithmetic operators are used to perform basic mathematical operations. The list of these operators is as under:

Symbol	Description	Example	Result
+	Used for Addition	=3+3	6
-	Used for Subtraction	=3–3	0
*	Used for Multiplication	=3*3	9
/	Used for Division	=3/3	1
%	Percent	=30%	0.3
^	Used for Exponentiation	=3^3	27

Q:2 What do you mean by Data validation?

Ans: Data Validation is one of the most important tools of Excel. Using this tool, we can define the rules for data to be allowed in the cell. If entered data in the cell does not follow the specified rules, it will display an Error Message. This tool is available in the Data Tab.
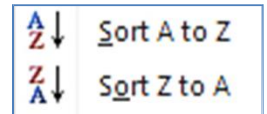

Q:3 Give the name of any three mathematical functions.

Ans: Following are the commonly used mathematical functions:
- SUM( ) Function
- COUNT( ) Function
- AVERAGE( ) Function
- MIN( ) Function
- MAX( ) Function

Q:4 What is Sorting in MS Excel?

Ans: Arranging data in a sequence is called Sorting. Data can be arranged in ascending or descending order. To sort data in excel sheets, Home or Data tabs can be used. To arrange data in Ascending Order, we use ⓐ↓ option and for Descending Order we use ⓩ↓ option.

Q:5 Define formula.

Ans: A formula is an expression that operates on values. These expressions may include constant values, cell addresses and operators. In Excel, formulas are used to perform calculations on numerical data. Each formula begins with equals to (=) sign. Standard operators (+, -, *, /, ^ etc.) can be used in formulas to perform different types of calculations.

Q:6 Give the name of conditional functions used in MS Excel.

Ans: Commonly used conditional functions used in MS Excel are given below:
- IF( ) Function
- SUMIF( ) Function
- COUNTIF( ) Function

Que:4 Long Answer Type Questions:

Q:1 What is Cell Referencing? Explain its types.

Ans: Cell reference refers to the cell address. Cell references are used in formulas and functions to perform calculations on cell data. For example: =A1+A2. Here A1 and A2 are the cell references.

Types of Cell References: There are three different types of cell references in Excel:
- **Relative Reference:** This is a default referencing in MS Excel. When formulas with relative reference are copied to other location, cell references change according to the change in the position of rows and columns. For Example: =A2+B2
- **Absolute Reference:** When formulas with absolute reference are copied to other location, cell references do not change according to the change in the position of rows and columns. Both Rows and Columns remains fixed while copying formulas. $ symbol is used with row and column address of a cell to specify absolute reference. For Example: =$A$2+$B$2
- **Mixed Reference:** This cell referencing is a mixture of both Absolute and Relative references. Only either Row or Column remains fixed while copying formulas. For Example: =A2+ B$2

	A	B	C	D	E	F
1	Data1	Data2	Relative Reference	Absolute Reference	Mixed Reference	
2	4	5	=A2+B2	=$A$2+$B$2	=A2+B$2	
3	23	45	=A3+B3	=$A$2+$B$2	=A3+B$2	
4	56	67	=A4+B4	=$A$2+$B$2	=A4+B$2	
5	78	89	=A5+B5	=$A$2+$B$2	=A5+B$2	
6						

Q:2 Define any three String Functions.

Ans: String functions are used on text data only. Commonly used String Functions are explained below:
1. **LEN Function:** This function is known as Length function. We can find the no of characters including spaces and symbols within a string using this function.
   For example: =Len("Hello Students")   It will show 14 as length of string.
2. **LOWER Function:** This function is used to convert the string into lower case.
   For Example: =Lower("HELLO")   It will show hello.
3. **UPPER Function:** This function is used to convert the string into upper case.
   For Example: =Upper("Hello")   It will show HELLO.

Q:3 What is Function? Explain any two mathematical functions with suitable example.

Ans: Functions are the predefined formulas. These formulas can be used for calculations in Excel sheets. Each function begins with the symbol = in Excel. Following are two commonly used mathematical function:
1. **MIN Function:** This function is used to get smallest/minimum number from the given range of cells.
   For Example:

	A	B	C	D	E	F	G	H
1	No1	No2	No3	No4	No5	No6	Function	Result
2	2	4	8	6	5	9	=MIN(A2:F2)	2
3								

2. **MAX Function:** This function is used to get largest/maximum number from the given range of cells.
   For Example:

	A	B	C	D	E	F	G	H
1	No1	No2	No3	No4	No5	No6	Function	Result
2	2	4	8	6	5	9	=MAX(A2:F2)	9
3								