

M.S.EXCEL (CAB)

What is spreadsheet?

A spreadsheet is an interactive computer application for organization, analysis and storage of data in tabular form. A spreadsheet consists of a table of cells arranged into rows and columns. Each cell may contain either numeric or text data, or the results of formulas. In modern spreadsheet applications, several spreadsheets, often known as worksheets, are gathered together to form a workbook.

Besides performing basic arithmetic and mathematical functions, modern spreadsheets provide built-in functions for common financial and statistical operations.

What are the features of spreadsheet?

What are the advantages of Spreadsheet?

What are the advantages of Excel?

Spreadsheet program has become very popular because of following features:

1. Built-in functions make calculation easier, faster and more accurate.
2. Large volume of data can be easily handled and manipulated.
3. Worksheets or their parts can be exchanged, merged etc.
4. Data can be exported to or imported from other software.
5. Data can be easily represented in pictorial form.

What is Excel?

Microsoft Excel is a spreadsheet application developed by Microsoft for Microsoft Windows and Mac OS. It is a part of Microsoft Office Package. General uses of Excel include cell-based calculation, pivot tables, and various graphing tools. It has been a very widely applied spreadsheet since version 5 in 1993, and it has replaced Lotus 1-2-3 as the industry standard for spreadsheets. Like all other spreadsheet software, Excel also consists of Rows and Columns, each Row is labeled by Numbers and columns are labeled by Alphabets. In Excel 2007 there are 16384 columns and 1048476 rows in a Work Sheet.

What is Workbook and Worksheet?

An Excel document is called a Workbook. Each workbook can contain multiple pages, called worksheets. By default, a workbook contains 3 worksheets but user can insert more worksheets, the maximum number of sheets in an Excel 2007 workbook is governed by available memory.

A WORK SHEET comprises of rows and columns. Rows are numbered as 1,2,3..... so on and columns are identified by letters. In Excel 2007 there are 16384 columns and 1048476 rows in a Work Sheet. A worksheet is capable of holding text, numbers and special characters.

What are the features of Excel?

Microsoft Excel is Spreadsheet software which provides various features; some of the important features available in MS. Excel are as follows:

Database: We can create, import or export Database in Excel.

Charts: Excel provides Chart features through which we can represent data graphically.

Functions: Various types of Mathematical, Logical, Statistical and other functions can be used in Excel.

Layout: Excel provides different types of layouts to view the database according to our requirement.

Hyperlink: By using these features we can link one file to another file or page.

Macros: We can create macro in Ms Excel; Macros are used for recording events for further use.

Sorting and Filter: We can sort and filter data in Excel.

Data Validations:- Data validations helps to prevent invalid data from being entered into a cell.

Grouping: Range of cells can be grouped so that they can collapse or expanded when required.

Security: Excel provides features to protect files by Password; even each work sheet can also be protected by password.

Formatting: All types of formatting tools are available in Ms Excel, using these tools we can format the database quickly and easily.

What are uses of Microsoft Excel?

Microsoft Excel is a spreadsheet application developed by Microsoft for Microsoft windows and Mac OS. It is a part of Microsoft Office Package. General uses of excel are:

Spreadsheet Creation: Excel is used for the creation of spreadsheets. A spreadsheet can contain, store and organize huge amount of data.

Documenting Financial Data: One of the primary uses of Excel is documenting financial balances and transactions to maintain financial records in a clear and organized manner. This allows for easier accounting, printing and sharing of accounting documents

Charting of Data: The charting of data is another primary use of Excel, different types of chart, viz. line charts, pie charts, area Charts, etc. can be created in Excel.

Financial Analysis: The financial data recorded in spreadsheets can be calculated and compared to better understand its financial progress.

Financial Reports: Excel provides various Formatting tools to design different types of financial report.

What is Cell Reference?

In Excel, a cell reference identifies the location a cell or group of cells in the spreadsheet. Cell references are used in formulas, functions, charts and other Excel commands. There are three types of cell referencing viz, relative referencing, absolute referencing and mixed referencing.

What is Range?

A range is a group or block of cells in a worksheet that have been selected or highlighted. Ranges can be made up of adjacent or non-adjacent cells. Adjacent cells are all together without any gaps in the range. Non-adjacent cell ranges consist of two or more separate blocks of cells.

What is Cell?

A cell is formed by the intersection of a column and a row. It is the smallest unit of a worksheet. Data entered into Excel is always stored in a cell. Each cell can hold only one piece of data at a time. Each cell has a unique address formed by the combination of column letter and row number.

What is Function?

In Microsoft Excel, a function is a type of formula that allows the user to perform mathematical, statistical and logical operations more easily. The usefulness of Excel's built-in functions can be expanded by nesting one or more functions inside another function in a formula.

What is Goal Seek in Excel?

Goal Seek is part of what-if analysis tools. Excel's Goal Seek feature allows user to alter the data used in a formula in order to find out what the results will be. The different results can then be compared.

What is solver?

Solver is part of what-if analysis tools. With Solver, we can find an optimal value for a formula in one cell — called the target cell — on a worksheet. Solver works with a group of cells that are related, either directly or indirectly, to the formula in the target cell. Solver adjusts the values in the changing cells that we specify — called the adjustable cells — to produce the result that we specify from the target cell formula.

easily as and when required.

Excel: - If a job or work requires a lot of tables, lists financial calculations, analysis and graphs, excel is the solution. MS - Excel is a powerful tool create and format spread sheets and also to analysis and shave information.

Uses of Spread Sheets: -

- i. Spread sheets are useful in graphics work. There are facilities to draw graph as per our requirements. It may be a line - graph, pie - graph or bar - graph. MS - Excel offers much wider variety of charts.
- ii. Spread sheets are helpful in creating reports. This report can be compared with previous results shown by the firm or company and hence quick evaluation and analysis can be done.
- iii. Mathematical calculations very easily. Once the formula is set, the process of computation comes very easy. We can copy the formula to elsewhere and it saves time in making new formula.
- iv. Monthly salary sheets of the employees can be printed on this package giving full detail of increments and deductions. On the basis of monthly salary annual reports can be generated.

Q.: What is a work sheet?

Ans.: A spread sheet is also called work sheet. Work sheet is a rectangular sheet in which small boxes are available. In each box of work sheet we can store data in the form of table and can copy or move as required. We can also calculated data on the basis of formula as desired.

Q.: What is a work book?

Ans.: Work book is such a file in which spread sheets and charts are stored. In a single work book we can store many spread sheets of similar types or which are related to each other.

Q.: What is cell and cell - address?

Ans.: A cell is a rectangular place. Each row and coloum intersection creates a cell. The cell address identifies the location of each cell.

A cell address always starts with the coloum number. For eg - BIO is a valid cell - address while IOB is an invalid cell address as starts with the row number.

Charts and Graphs

Charts present the data in a graphical form the data presented in the form of a chart or graph looks very attractive.

Types of Charts or Graph in MS – Excel:-

The various types of charts are available in MS – Excel we can create any type of chart by entering the data in a work sheet. The data shown below has been used to show various types of chart.

	A	B
1.	2000	2001
2.	UNITS	UNITS
3.	15000	18000
4.	17000	21000
5.	20000	25000
6.	32000	31000
7.	29000	33000

Coloum Chart: - This type of chart shows change over a given period of time. It is useful for compulsory purpose. It compares values across categories. These categories are organized horizontally and the values are shown vertically.

Bar Chart: - Bar chart illustrates comparisons among individual item. In this type categories are organized vertically and values horizontally.

Components of Charts: - Being a mathematics or commerce student we are familiar with most of the chart components. The components are as follows: -

- i. **X axis:** - This is the horizontal axis is also known as category axis.
- ii. **Y axis:** - This is the vertical axis also known as value axis.
- iii. **Data Series:** - Data series is the set of values with which the chart is plotted.
- iv. **Chart Area:** - The total region surrounding the chart is called chart area.
- v. **Plot Area:** - The part in which data is plotted is called plot area. In 2d the chart area is bounded by axis.
- vi. **Chart Title:** - The chart title is written at the top of chart. It helps the user in identifying the chart.
- vii. **Legend:** - The portion to the right of the plot area is legend to identify each data series. Each series is assigned a unit colour or design.
- viii. **Guidelines:** - These lines are the lines both horizontal and vertical in the plot area. These lines are inserted in the charts to identify the value of each data point in a chart easily.
- ix. **Data Label:** - This is the label which provides additional information about data marker.
- x. **Axis Titles:** - These are titles given to the 3 axis X, Y & Z axis.

--- X ---

2Q. what is Goal Seek Function? Mention its Steps.

2016 (H), 2018(H)

Ans: The Goal Seek Excel function (often referred to as What-if-Analysis) is a method of solving for a desired output by changing an assumption that drives it. The function essentially uses a trial and error approach to back-solving the problem by plugging in guesses until it arrives at the answer.

Steps to Use Goal Seek:

1. Put the cursor on the cell that contains the output you want to change (revenue)
2. On the Data ribbon, select What-if-analysis, then select Goal Seek (keyboard shortcut is Alt, A, W, G)
3. When the dialog box appears (as shown below) make "Set cell" equal to the revenue cell (E10)
4. Set "To value" equal to the output you want to achieve (type the number in)
5. Set "By changing cell" equal to the assumption you want to solve for (# of units, or cell E4)
6. Press OK

3Q. what is Cell in Electronic spreadsheet? Discuss the features of Electronic Spreadsheet/ MS Excel.

2016 (P)

Ans: A cell is the intersection between a row and a column on a spreadsheet that starts with cell A1. In Microsoft Excel, a cell is a rectangular box that occurs at the intersection of a vertical column and a horizontal row in a worksheet. ... You can store data in a cell such as a formula, text value, numeric value, or date value.

MS Excel: Microsoft Excel is a spread sheet application developed by Microsoft for Microsoft windows. It features, calculation, graphing tools, pivot tables, and a micro programming language called visual basic for application. Like all others spreadsheet software excel also consist of Rows and columns. Row is labelled by

numbers and columns are labelled by alphabets. In excel 2007 there are 16384 columns and 1048576 rows in a worksheet.

Features of Excel:

1. Data management:

Efficient data management facilities may include features for data entry with data validation, rearranging data (sorting), finding and/or extracting a part of the data depending upon the requirement, cutting and pasting, classification of data in the form of frequency tables etc.

2. Cell definition:

Cell is the intersection of a row and a column in the spreadsheet. The contents of a cell may be defined with the help of a value (number), label (text), formula, date or time. In case of the need to enter a series of data, electronic spreadsheets facilitate automatic filling of a range of cells within the series.

3. Display of data:

Most electronic spreadsheets maintain two layers of data. The first layer contains the data the way they were entered and modified. The other layer of data is for display of values. The display of data is done on the basis of the formatting specifications made by the user

4. Conditional Formatting: Making sense of our data-rich, noisy world is hard but vital. Used well, Conditional Formatting brings out the patterns of the universe, as captured by your spreadsheet. That's why Excel experts and Excel users alike vote this the #1 most important feature

5. Sorting and Filtering: Excel spreadsheets help us make sense of large amounts of data. To make it easier to find what you need, you can reorder the data or pick out just the data you need, based on parameters you set within Excel. Sorting and filtering your data will save you time and make your spreadsheet more effective.

6. Mixed Type Charts: Mixed type or combo (combination) charts combine two styles of charts, such as Excel's column chart and line chart. This format can be helpful for displaying two different types of information or a range of values that varies greatly.

7. Basic Math: At the heart of any Excel spreadsheet are the numbers within the data. Using basic math functions to manipulate those numbers is one of the features that makes Excel so powerful

Ans: Solver is a Microsoft Excel add-in program you can use for what-if-analysis. Use Solver to find an optimal (maximum or minimum) value for a formula in one cell- called the objective cell-subjects to constraints, or limits, on the value of other formula cell on a worksheet. Excel includes a tool called solver that uses techniques from the operation research to find optimal solution for all kinds of decision.

Step to run solver in Excel:

- Click the *Microsoft Office* Button, and then click *Excel Options*.
- Click *Add-Ins*, and then in the *Manage* box, select *Excel Add-ins*.
- Click *Go*.
- In the *Add-Ins available* box, select the *Solver Add-in* check box, and then click *OK*.
- If *Solver Add-in* is not listed in the *Add-Ins available* box, click *Browse* to locate the add-in.
- If you get prompted that the *Solver Add-in* is not currently installed on your computer, click *yes* to install it.
- After you load the *Solver Add-in*, the *Solver* command is available in the *Analysis* group on the *Data* tab.

Advantages of solver tools in Business Operation

1. Linear Algebra

The process of solving equations with a single unknown variable is relatively straightforward. However, when multiple unknowns are part of a set of multiple equations, this process gets much more time consuming and challenging. A key advantage of Solver is the ability to quickly process scenarios involving multiple unknown variables. This is often regarded as "linear algebra."

2. Optimization

Optimization is a key purpose of Solver as used in the corporate world. As with linear algebra, many product development cycles are influenced by multiple factors, each of which can significantly change profit margins or product quality. If the relationship between these factors and a company's desired goals can be expressed mathematically, Solver can quickly identify the value of these factors to meet those goals

3. Education

While Excel's solver is an excellent introduction into the power of "what if" analysis that many companies use, it is also a limited product for particularly large operations. Many corporations have their own proprietary tools that work similarly to Solver but can handle much larger sets of data and a greater number of simultaneous variables.

De*7Q. Discuss the uses of logical and statistical functions in Excel.

2012(H) 2014(H)

Ans: Using the OR function in Excel i.e., Logical function, as well as AND, the Excel OR function is a basic logical function that is used to compare two values or statements. The difference is that the OR function returns TRUE if at least one if the arguments evaluates to TRUE, and returns FALSE if all arguments are FALSE.

In addition to formulas, another way to conduct mathematical computations in Excel is through functions.

Statistical functions apply a mathematical process to a group of cells in a worksheet. For example, the SUM function is used to add the values contained in a range of cells.

8Q: What are the types of graphs in MS Excel? Discuss the process of inserting graphs.

2012(P)2012(H) 2013(P)

Following are the types of graphs:

Bar Graphs

Also known as a Pareto Diagram, a bar graph can be horizontal or vertical.

Flow Charts

A flow chart displays schematic processes based on the outcome, validity, or answer to a previous variable.

Pie Charts

Sometimes called a circle graph, pie charts represent the parts of a whole. Each 'section' or 'slice of the pie' is a data percentage.

Pictograph

These are the first graph types that kids learn about. In pictographs, smaller picture represents a certain amount of an item and the pictures in the graphs are stacked up one after another.

Line Graphs

Used to display comparisons between 2 variables, line graphs involve an x-axis horizontally and a y-axis vertically on a grid. Dot-connected and grid-plotted lines are what comprise a line graph.

Process of inserting graphs in Excel:

1. Enter your data into Excel.
2. Choose one of given graph and chart options to make.
3. Highlight or select your data and 'Insert' your desired graph.
4. Switch the data on each axis, if necessary.
5. Adjust your data's layout and colours.
6. Change the size of your chart's legend and axis labels.
7. Change the Y axis measurement options, if desired.
8. Reorder your data, if desired.
9. Title your graph.

9Q. Discuss the application of Electronic Spreadsheet or MS Excel in business.

2014(P) 2015(P) 2013(H) 2012(P) 2015(H), 2018(P)

Microsoft Excel spreadsheet software has become an integral part of most business organizations across the world. MS Excel is used for various purposes by business establishments. Some organizations use this spreadsheet software for generating memos, track sales trends, and other business data. Microsoft Excel spreadsheets software come with million rows of data and automate number crunching, but this popular spreadsheet software is capable of doing more than just figures. MS Excel has a simple interface that allows users to easily understand this software and also perform basic activities.

Work Scheduling

Assigning the work tasks to the team members is one of the most important job of the managers. This task must be performed by managers effectively so that the given project deadlines are met and the project is delivered successfully to the client. For this, managers take advantage of Scheduling feature available in the MS Excel spreadsheet software.

Basic Financial Accounting

Small and mid-sized organizations make use of MS Excel spreadsheet software for carrying out their accounting activities. They can create a basic accounting program or check book ledger that allows them to keep a track of the organization's financial transactions.

Return on Investment [ROI]

MS Excel software also allows you to track the Return on Investment accurately. The ROI gives the business owner a clear indication of how much investments have been made into the business and how much is the profit earned by the business.

Customer Data

Small business establishments and organizations use MS Excel spreadsheet for storing contact information of their clients and customers. This information acts as a customer database for them and can make use of this information to contact their customers.

14Q. steps to calculate mean and standard deviation in MS-Excel.

2017(P)

Steps for mean:

1. Use the "AVERAGE" function in Excel to find the mean of a set of numbers. Enter the range of numbers in your Excel spreadsheet. Click where you want the mean (Average).
2. Click "Formulas" and select the "Insert Function" tab. enter the numbers in your Excel spreadsheet in either a row or a column.
3. Scroll down and select the "Average" function.
4. Enter the cell range for your list of numbers in the number 1 box, for instance D4:D13 and click "OK"
5. The mean (average) for the list will appear in the cell you selected.

Steps for standard deviation:

1. Use the STDEV function to compute the standard deviation. Place your cursor where you wish to have it appear.
2. Click on "Formulas" and select the "Insert Function" (FX) tab again.
3. Scroll down the dialog box and select the STDEV function.
4. Enter the cell range for your list of numbers in the number 1 box and click OK.
5. The standard deviation will appear in the cell you selected.

MS-EXCEL

Introduction

MS Excel is a spreadsheet application that is produced and distributed by Microsoft for Microsoft Windows. Spreadsheet applications such as MS Excel use a collection of cells arranged into rows and columns to organize and manipulate data. They can also display data as charts, histograms and line graphs. It is widely used for various purposes because the data is easy to save, and information can be added and removed without any discomfort and less hard work. MS Excel has some benefits :

- (a) It is easy to save and analyse data in MS excel as there is no limit to the amount of information that can be saved in a spreadsheet.
- (b) It is easy to recover data in Excel worksheet which is not in case of the information written on a piece of paper because it takes longer to find it.
- (c) Doing calculations has become easier, convenient and less time-taking with the formulas option in MS excel.
- (d) Spreadsheets in MS Excel can be password secured in a laptop or personal computer and the probability of losing them is way lesser in comparison to data written in registers or piece of paper.
- (e) Any data that is saved in the form of a table, analysing it becomes easier and convenient. Thus, information in a spreadsheet is more readable and understandable.

Exercises

1. Fill in the blanks:

- (a) Excel is a _____ software package.

Ans. Spreadsheet

- (b) Address of the cell at 10th column and 30th row is _____.

Ans. J 30

- (c) The cell having bold boundary is the _____.

Ans. Active cell

- (d) Any formula in Excel starts with an _____.

Ans. Equal sign (=)

- (e) In _____ referencing, the relative address of the cell gets adjust with respect to the current cell.

Ans. Relative

(f) For absolute referancing, _____ sign is used before the parts of formula.

Ans. \$

(g) If you enter $15 + 30$ in a cell, Excel will display _____.

Ans. 15+30

(h) _____ are text, number cell references enclosed within parenthesis in a formula.

Ans. Arguments

2. Multiple Choice Questions:

(a) A worksheet is a _____.

- (a) collection of workbooks
- (b) processing software
- (c) combination of rows and columns
- (d) None of the above

Ans. (c) combination of rows and columns

(b) By default, a workbook in Excel contains how many worksheets?

- (a) 15
- (b) 3
- (c) 15
- (d) 256

Ans. (b) 3

(c) The AutoFill can apply from

- (a) left to right
- (b) right to left
- (c) up to down
- (d) All of these

Ans. (d) All of these

(d) The default page orientation in Excel is

- (a) Landscape
- (b) Horizontal
- (c) Portrait
- (d) None of these

Ans. (c) Portrait

(e) The default alignment of text in a cell is

- (a) Left
- (b) Right
- (c) Centered
- (d) Justified

Ans. (a) Left

(f) Cell address $\$B\5 in a formula mean

- (a) it is a mixed reference
- (b) it is an absolute reference
- (c) it is a relative reference
- (d) None of the above

Ans. (b) it is an absolute reference

(g) A cell range starting from first row, first column to fourth row and fifth column can be represented as

- (a) [A1 : E4]
- (b) [AO : E3]
- (c) [E4 : A1]
- (d) [E3 : AO]

Ans. (a) [A1 : E4]

(h) COUNTA (4, 78, False, 18) will return _____.

- (a) 2
- (b) 3
- (c) 4
- (d) 5

Ans. (c) 4

(i) Which of the following charts is used for comparing the changes in data over a period of time?

- (a) Bar chart (b) Area chart (c) Scatter chart (d) Line chart

Ans. (d) Line chart

(j) For selecting a non-continuous range of cells, you need to do what?

- (a) Press Alt Key (b) Press Shift key
(c) Press Esc key (d) Press Ctrl key

Ans. (d) Press Ctrl key

3. Answer the following:

(a) Define the term workbook.

Ans. Workbook is a collection of multiple worksheets or can be a single worksheet. By default, there are three worksheets in every workbook.

(b) Rohan is new to Excel. His instructor has asked him to open Excel on her PC and questioned about active cell. Help Rohan in identifying the active cell on his screen.

Ans. An active cell is a cell having bold black boundary.

(c) What is the default alignment of number, text and formula in a spreadsheet?

Ans. Default alignment of text is left alignment and for numbers and formula, it is right alignment in a spreadsheet.

(d) Sahil has clicked on the cell residing at the intersection of first row and ninth column. What will be the address of the selected cell?

Ans. The address of the selected cell is I1.

(e) How many cells would be there in the cell range [A1; B2]?

Ans. There will be 4 cells in the cell range [A1; B2].

(f) If $= 6 - 5 * 2$ is entered in a cell, then what will be the cell content?

Ans. - 4 will be the cell content.

(g) In a spreadsheet software, the formula $= A1 + \$A\2 was entered in cell A3 and then copied into cell B3. What is the formula copied into B3?

Ans. The formula copied into B3 is $= B1 + \$A \2

(h) Write down the formula for adding values of cells A1 to A5.

Ans. The formula for adding values of cells A1 to A5 is $= \text{sum} (A1: A5)$

(i) State difference between COUNT() and COUNTA() function.

Ans. The difference between COUNT() and COUNTA() function is that COUNT () a function is used to count the number the number of cells in a given range of cells that contain numerical value whereas COUNTA() function is used to simply count the number of entries in a given range of cells including text entries.

(j) Write down the importance of legend in charts.

Ans. Legends help one to identify various plotted data series. Each series can be uniquely identified by assigning a unique color or pattern.

(k) What is the difference between a workbook and a worksheet?

Ans. The difference between a workbook and a worksheet are -

- (a) Workbook is an excel file containing many worksheets whereas a worksheet has a single spreadsheet containing data.
- (b) Workbook cannot be added within the worksheet whereas worksheet can be added in a workbook.
- (c) Workbooks are used in a professional environment while worksheet is preferred in a learning or educational set up.

(l) Define the meaning of formula.

Ans. Formulas are equations that perform calculations on values in a worksheet. A formula should always start with an equal sign (=). If space is given before the "=" sign, it will be taken as text rather than formula and no calculations can be performed using it.

(m) Suggest the appropriate function for the following situations:

(a) Selecting the maximum value out of a range A1 to B20.

Ans. = MAX (A1 : B20)

(b) Calculating average of marks entered in cells E5, F5, G5, H5 and I5.

Ans. = AVG (E5 : I5)

(n) Akriti has entered $49 + 30$ in a cell. The worksheet is not displaying 79 in the cell. Instead, $49 + 30$ is getting displayed. Help, Akriti in rectifying the problem.

Ans. In Excel, every formula must start with an equal sign (=)

Since, Akriti has not put = sign before $49 + 30$ in a cell, so no calculation can be performed. To get the desired result i.e, 79, she must use = $(49 + 30)$ formula.

(o) For what purpose pie charts are useful?

Ans. Pie charts shows the size of items in one data series, proportional to the sum of the items. The data points in a pie chart are shown as a percentage of the whole pie.

(p) Explain the concept of cell referencing along with its various types.

Ans. When a cell address is referred to in formula, its writing style determines how that cell will be referenced during the calculation. There are three cell referencing styles in a worksheet.

- (i) Relative Referencing
- (ii) Absolute Referencing
- (iii) Mixed Referencing

Relative Referencing : The cell reference in this type is a normal cell address like A1, C2, D4 etc. In relative referencing, the formulae in the copied cell changes according to the change in the position of the cell pointer. If you copy the formula across rows or down columns, the formula or cell reference changes automatically.

Absolute Referencing : An absolute reference is specified by using the \$ sign along with the column and the row number in the cell. Using \$ means, fixed to a specific location. If you copy the formula across rows or down columns, the absolute reference remains unchanged.

Mixed Referencing : Mixed referencing is when one part of the cell address is relative and the other is absolute. So, either the column or the row number should have a \$ along with it.

Additional Questions and Answers

1. Fill in the blanks :

(a) Spreadsheet is a computer _____ program.

Ans. Application

(b) A spreadsheet consists of a grid of _____ and _____.

Ans. Rows, columns

(c) The columns in a spreadsheet are labelled with _____.

Ans. Letters A,B,C... so on

(d) The rows in a spreadsheet are labeled with _____.

Ans. Numbers 1, 2, 3... so on.

(e) Intersection of a row and column is called a _____.

Ans. Cell

(f) _____ shows the content of the active cell.

Ans. Formula Bar

(g) _____ shows the address of the active cell.

Ans. Address Bar

(h) A column is a _____ set of cells.

Ans. Vertical

(i) A row is a _____ set of cells.

Ans. Horizontal

(j) A single worksheet contains _____ total columns.

Ans. 16384

(k) A single worksheet contains _____ total rows.

Ans. 1048576

(l) Every column has its own alphabet for identity starting from ____.

Ans. A to X FD

(m) Every row has its own number for identity starting from ____.

Ans. 1 to 1048576

(n) A selected rectangular block of two or more consecutive cells is called a ____.

Ans. Range

(o) Keyboard shortcut for Undo command is ____.

Ans. Ctrl + Z

(p) Keyboard shortcut for Redo command is ____.

Ans. Ctrl + Y

(q) Cell address \$ A4 in a formula means it is a ____.

Ans. Mixed reference

(r) The Auto Fill can apply from ____.

Ans. Any sides

(s) In Mixed Referencing, B\$4 is a mixed cell reference with ____ and ____.

Ans. Relative column, absolute row

(t) In Mixed Referencing, \$ P5 is a a mixed cell reference with ____ and ____.

Ans. Absolute column, Relative row

2. Short Type Questions & Answers

(i) What is Quick Access Toolbar?

Ans. A Quick Access Toolbar is a toolbar which is used to quickly access the options which you frequently used.

(ii) What does Worksheet Tab show?

Ans. Worksheet Tab shows all the worksheets which are present in the workbook. By default you will see, three worksheets in your new workbook with the name of Sheet 1, Sheet2, Sheet3 respectively.

(iii) What is a Formula Bar?

Ans. The formula bar is an input bar, below the ribbon. It shows the content of the active cell and can also use it to enter a formula in a cell.

(iv) What does Address Bar show?

Ans. Address Bar shows the address of the active cell.

(v) Define the term worksheet.

Ans. A worksheet is made up of individual cells which can contain a value, a formula, or text. It also has an invisible draw layer, which holds charts, images, and diagrams.

(vi) Define the term column in MS Excel.

Ans. A column is a vertical set of cells. A single worksheet contains 16384 total columns. Every column has its own alphabet for identity, from A to XFD.

(vii) Define the term row in MS Excel.

Ans. A row is horizontal set of cells. A single worksheet contains 1048576 total rows. Every row has its own number for identity, starting from 1 to 1048576.

(viii) What do you mean by Status bar in MS Excel?

Ans. Status bar is a thin bar at the bottom of the Excel window. It will give you an instant help once you start working in Excel.

(ix) What is a cell address in a worksheet?

Ans. Each cell has a name, or a cell address, based on the column and row where it is located. For example, the intersection of column D and row 5 is the cell address of D5.

(x) Define range of cells in a worksheet.

Ans. A selected rectangular block of two or more consecutive cells is called a range. A range can be of few cells, whole row, column or the entire worksheet. Cell range helps us to perform similar operations quickly on the values contained in its cells.

Rather than a single cell address, you will refer to a cell range using the cell addresses of the first and last cells in the cell range, separated by a colon (:) symbol. For example, a cell range that included cells A4 to A10 would be written as A4:A10.

(xi) State the steps to create a blank workbook.

Ans. - Left-click the Microsoft Office button.
- Select New. The New Workbook dialog box opens, and Blank Workbook is highlighted by default.
- Click Create. A new blank workbook appears in the window.

(xii) State the steps to insert text in a blank workbook?

Ans. - Left-click a cell to select it. Each rectangle in the worksheet is called a cell. As you select a cell, the cell address appears in the Name Box.
- Enter text into the cell using your keyboard. The text appears in the cell and in the formula bar.

(xiii) How to save the workbook in your computer?

Ans. - Left-click the Microsoft Office button.
- Select Save or Save As.
- Save As allows you to name the file and choose a location to save the spreadsheet. Choose Save As if you'd like to save the file for the first time or if you'd like to save the file as a different name.
- Select Save if the file has already been named.

(xiv) How to select cell range in the worksheet by using mouse?

Ans. Click to select the first cell from where the range is to be started. Press and hold the left mouse button to drag diagonally till the last cell of the range.

(xv) How to select cell range in the worksheet by using keyboard?

Ans. Select the first cell from where the range is to be started. Press and hold the Shift key. Now use the arrow keys to move to the last cell of your range.

(xvi) State the steps to select an entire worksheet.

- Ans.** - Click the Select All button at the top left corner of worksheet.
- Press Ctrl+A keyboard shortcut to select all the worksheet cells in a single range.
- Selecting Multiple Non-Adjacent Ranges
- Select the first range in the normal way
- Now to select the second range, hold down the Ctrl key and then select the second range. This way, you can select as many ranges as you want.

(xvii) How to edit or delete cell contents in worksheet?

- Ans.** - Select the cell.
- Press the Backspace key on your keyboard to delete text and make a correction.
- Press the Delete key to delete the entire contents of a cell.

(xviii) What do you do with Undo and Redo buttons on the Quick Access Toolbar in MS Excel?

Ans. The Undo button on the Quick Access Toolbar is used to reverse the unwanted actions. This Undo option also displays the last action when it is pointed which can be undone by clicking on it.

The Redo button on the Quick Access Toolbar is used to repeat the actions that are undone. Keyboard shortcuts for Undo command is Ctrl+Z and Redo command is Ctrl+Y.

(xix) State the steps to insert a blank row or column in your existing worksheet.

- Ans.** - Select the row or column where a blank row or column is to be added.
- Click the Insert command in the cells group on the home tab and select insert sheet rows. The data from the current cell position shift downward to insert a blank row at that position.

OR

- Click the Insert command in the Cells group on the Home tab and select Insert Sheet Columns. The data from the current cell position shift towards right to insert a blank column at that position.

(xx) How to delete unwanted row or column in a worksheet?

Ans. One can delete the unwanted data rows or columns from your worksheet, if these are no more needed in the worksheet.

To delete rows and columns :

- Select the entire row (s) or column (s) to be deleted.
- Click the Delete command in the cells group on the Home tab.

(xxi) Describe the term Autofill in worksheet in detail.

Ans. AutoFill feature is used to quickly create a series of entries based on the data you enter in one or two cells. It is used to fill predefined series of numeric or text data quickly across row or column. For example,

- Sunday, Monday,
- January, February
- 1, 2, 3, 4

To use Auto Fill for a series of numbers, enter two values in two adjacent cells, select both cells, and then use the AutoFill handle to drag through the remaining cells you want to fill. Excel continues the series.

(xxii) How to adjust cell width and height in a worksheet?

Ans. The cell width and height will usually need to be adjusted to view all the information entered into a cell.

To adjust the cell width, move the mouse pointer in between two cell columns the column header. Hold down the left mouse button and drag the mouse left to shorten the width or right to expand the width.

Adjust the cell height using the same method. Move the mouse cursor between two rows, hold down the left mouse button and move the mouse up to decrease the height and down to increase the height.

(xxiii) State the steps to change the default number formatting in Excel worksheet.

Ans. - Select the cells to be formatted.

- On the Home tab, click the launcher button in the lower right corner of number group.
- Format Cells dialog box appear. Click the Number tab in the dialog box.
- Select the required number format from the Category list e.g., Currency. Select the currency symbol from the Symbol drop down list.
- Specify the decimal digits in the Decimal places box.
- Click OK button to apply the setting.

(xxiv) State the steps involve in renaming a worksheet?

Ans. The steps involve in renaming a worksheet are written below-

- Right click on the 'Sheet1' tab in the worksheet.
- A shortcut menu will appear. Click on the rename option.
- The Sheet tab gets highlighted. Assign a new name for the sheet by typing on it and press Enter.

Note that the Sheet name has been changed.

(xxv) Define functions in MS Excel.

Ans. Excel also provides a set of built in functions like SUM, AVERAGE, COUNT, MAX, MIN etc. for pertaining complex calculations easily and to analyse the worksheet data.

(xxvi) What is relative referencing?

Ans. The cell reference in this type is a normal cell address like A1, C2, D4 etc. In relative referencing, the formulae in the copied cell changes according to the change in the position of the cell pointer. If you copy the formula across rows or down columns, the formula or cell reference changes automatically.

(xxvii) What is absolute referencing?

Ans. An absolute reference is specified by using the \$ sign along with the column and the row number in the cell. Using \$ means, fixed to a specific location. If you copy the formula across rows or down columns, the absolute reference remains unchanged.

(xxviii) What is mixed referencing?

Ans. Mixed referencing is when one part of the cell address is relative and the other is absolute. So, either the column or the row number should have a \$ along with it.

(xxix) Describe circular reference in MS Excel?

Ans. A circular reference occurs when a formula in a cell refers to its own cell value directly or indirectly. This causes the formula to use its result in the calculation, which can create errors. When a workbook contains a circular reference, Excel cannot automatically perform calculations.

For example, if you type =C1-A1 Excel displays an error message. This error message appears when you attempt to enter a formula that contains a circular reference. If a circular reference warning surprises you, this usually means that you made an error in a formula. Click OK, and look at the formula.

(xxx) State the rules to enter function in MS Excel?

- Ans. -**
- All Excel functions must begin with equal (=) sign.
 - Function name must be a valid Excel name. For example, SUM, AVERAGE, MAX, MIN etc.
 - Function name must be followed by an opening and closing parenthesis.
 - Arguments are enclosed in the parenthesis. For example : = SUM (A1:A4)

(xxxi) Give the steps to view the spreadsheet in Print Preview.

- Ans. -**
- Left-click the Microsoft Office button.
 - Select Print.
 - Select Print preview. The spreadsheet will appear in Print Preview view. Change the necessary settings like modifying margins, change page orientation, change paper size and then click the Close Print preview button to return to the Normal View.

3. Long type Questions

(i) How to change the default cell background in a worksheet?

Ans. To change the default background of the cells :

- Select the cells to be formatted.
- Click Format drop button in the Cells group on the Home tab. Choose Format Cells option in it to open Format Cells dialog box.
- Click the Fill tab in it.
- Choose the desired fill color for the cells.

You can also choose gradient effect as the cell background using Fill Effects option. Click OK button to apply the selected background to the cells.

(ii) Explain the different types of charts in MS Excel.

Ans. The different types of charts in MS Excel are-

- (a) Column Chart
- (b) Line Chart
- (c) Pie Chart
- (d) Doughnut Chart
- (e) Bar Chart
- (f) Area Chart
- (g) XY (Scatter Chart)

The following charts are explained below -

(a) Column Chart :- A Column Chart typically displays the categories along the horizontal (category) axis and values along the vertical (value) axis. To create a column chart, arrange the data in columns or rows on the worksheet.

(b) **Line Chart** : Line charts can show continuous data over time on an evenly scaled Axis. Therefore, they are ideal for showing trends in data at equal intervals, such as months, quarters or years. In a Line chart-

- Category data is distributed evenly along the horizontal axis.
- Value data is distributed evenly along the vertical axis.

(c) **Pie Chart** : Pie charts show the size of items in one data series, proportional to the sum of the items. The data points in a pie chart are shown as a percentage of the whole pie.

(d) **Doughnut Chart** : A Doughnut chart shows the relationship of parts to a whole. It is similar to a Pie Chart with the only difference that a Doughnut Chart can contain more than one data series, whereas, a Pie chart can contain only one data series.

A Doughnut Chart contains rings and each ring representing one data series.

(e) **Bar Chart** : Bar charts illustrate comparisons among individual items. In a Bar Chart, the categories are organized along the vertical axis and the values are organized along the horizontal axis.

(f) **Area Chart** : Area Charts can be used to plot the change over time and draw attention to the total value across a trend. By showing the sum of the plotted values, an area chart also shows the relationship of parts to a whole.

(g) **XY (Scatter) Chart** : XY (Scatter) charts are typically used for showing and comparing numeric values, like scientific, statistical, and engineering data.

A Scatter chart has two Value Axes-

- Horizontal (x) Value Axis
- Vertical (y) Value Axis

It combines x and y values into single data points and displays them in irregular intervals, or clusters.

(iii) **State the steps to change the default text formatting in Excel worksheet?**
Ans. To improve the appearance of Excel worksheet, you can use various text formatting options like changing font face, font style, color etc. of all the cell values.

To change the default text format :

- Select the cells to be formatted.
- Open Format Cells dialog box by clicking the launcher button in the Number group.
- Select Font tab in it.
- Select the required font face from the list. Choose the font style as Bold, Italic etc. and also the font size as needed. You can also use the color option to change default text color.
- Once the desired format is set, click the OK button.