Chapter-16

SPREADSHEET

1. What is spread sheet?
   - A spreadsheet is a software tool for entering, manipulating and analyzing sets of number.

2. What is Workbook?
   - A workbook is a multipage Excel document.

3. Define Cell.
   - The intersection of rows and columns is called a cell.

4. What is cell address?
   - Every cell is identified by unique address called cell address, which includes the column alphabet followed by the row number.

5. Why is the cell pointer used?
   - A rectangular box which is used to identify the active cell is called cell pointer.

6. What is the extension with which a workbook is saved?
   - A workbook is saved under the extension .xls or .xlsx.

7. How many rows and columns are there in the worksheet?
   - 65,536 (10, 48,576) rows and 256 (16,384) columns are there in the worksheet.

8. Explain any five features of Spreadsheet or ESS or Excel.
   a) Tip wizard
      - provides helpful tips and techniques based on what you are doing
      - More efficient
   b) External Data:
      - Allows you retrieve or load data from external data source and use it in your worksheet.
   c) Autosum:
      - You can add a large range of data by simply selecting a tool button.
   d) Autofill:
      - Helps you to fill rows or columns with series of data
   e) Financial Analysis:
      - Used to make quick and easy financial analysis
      - You can also analyses data and create presentation with charts.
   f) Drag and drop features
      - Helps you to move the data and text from one place to another simply by dragging the data with help of mouse
g) Windows Interface
   - Microsoft Excel is windows based package, therefore the user interface is consistent.

h) Webpage
   - Used to create web pages with ease and also run queries on data available on the net.

i) Shortcut menus
   - Commands appropriate to the task that you are doing by clicking the right mouse button.

**BUILT -IN FUNCTIONS**

**DATE AND TIME FUNCTIONS**

1. **DAY( )** – Returns day from the date
   - Syntax: =DAY(“MONTH-DAY-YEAR”)
   - Example: =DAY(“01-26-2017”)
   - Ans: 26

2. **MONTH( )** – Returns month from the date
   - Syntax: =MONTH(“MONTH-DAY-YEAR”)
   - Example: =MONTH(“01-26-2017”)
   - Ans: 01

3. **YEAR( )** – Returns year from the date
   - Syntax: =YEAR(“MONTH-DAY-YEAR”)
   - Example: =YEAR(“01-26-2017”)
   - Ans: 2017

4. **WEEKDAY( )** – Returns Weekday from the date
   - Syntax: =WEEKDAY(“MONTH-DAY-YEAR”)
   - Example: =WEEKDAY(“01-26-2017”)
   - Ans: 5

5. **TODAY( )** – Returns system date from the date
   - Syntax: =TODAY( )
   - Example: =TODAY( )
   - Ans: 1/19/2017

6. **NOW( )** – Returns System date and time from the date
   - Syntax: =NOW( )
   - Example: =NOW( )
   - Ans: 1/19/2017 10:08
7. **DATE ( )** – Returns the serial number of the date or display the date in American format.
   - Syntax: =DATE(YEAR,MONTH,DAY)
   - Example: =DATE(2017,01,26)
   - Ans: 1/26/2017

➢ **ARITHMETIC FUNCTIONS**

1. **ABS ( )**
   - Returns the absolute value of the number.
   - Number without a sign is called absolute number.
   - Syntax: ABS(NUMBER)
   - Example: =ABS(5 – 10)
   - Answer: 5

2. **SQRT ( )**
   - Returns the square root of the number.
   - Syntax: SQRT(NUMBER)
   - Example: =SQRT(100)
   - Answer: 10

3. **MOD ( )**
   - Returns the remainder after number is divided by divisor
   - Syntax: MOD(NUMBER, DIVISOR)
   - Example: =MOD(5,3)
   - Answer: 2

4. **PRODUCT ( )**
   - This function multiplies all the numbers given as arguments and returns the product
   - Syntax: PRODUCT(NUMBER1, NUMBER2…..)
   - Example: =PRODUCT(10,20)
   - Answer: 200

5. **SUM ( )**
   - Returns the sum of all the numbers in the list of arguments
   - Syntax: SUM(NUMBER1, NUMBER2…..)
   - Example: =SUM(A1:A3)
   - Answer: 60
STATISTICAL FUNCTIONS

1. MAX() –
   - Returns the maximum value from the range of cells
   - Syntax: MAX(RANGE)
   - Example: =MAX(A1:A3)
   - Answer: 30

2. MIN() –
   - Returns the minimum value from the range of cells
   - Syntax: MIN(RANGE)
   - Example: =MIN(A1:A3)
   - Answer: 10

3. AVERAGE() –
   - Returns the Average value from the range of cells
   - Syntax: AVERAGE(RANGE)
   - Example: =AVERAGE(A1:A3)
   - Answer: 30

LOGICAL FUNCTIONS:

1. AND() –
   - This function returns TRUE if all its arguments are TRUE, returns FALSE, if one or more arguments are FALSE.
   - Syntax: AND(LOGICAL1,LOGICAL2…)
   - LOGICAL1, LOGICAL2 are 1 to 30 conditions you want to test.
   - Example: =AND(10 > 5, 8 > 7)
   - Answer: TRUE
   - Example: =AND(10 > 5, 8 < 7)
   - Answer: FALSE

2. OR() –
   - This function returns TRUE if one or more arguments are TRUE, returns FALSE, if all arguments are FALSE.
   - Syntax: OR(LOGICAL1,LOGICAL2…)
   - LOGICAL1, LOGICAL2 are 1 to 30 conditions you want to test.
   - Example: =OR(10 > 5, 8 > 7)
   - Answer: TRUE
- Example: =OR(10 > 5, 8 < 7)
- Answer: TRUE

3. **NOT()**
   - This function returns the value of its argument.
   - Syntax: NOT(LOGICAL)
   - Example: =NOT(10 > 5)
   - Answer: FALSE
   - Example: =NOT(8 < 7)
   - Answer: TRUE

4. **IF()**
   - When the logical_test is true, then it returns value-if-true otherwise value-if-false.
   - Syntax: IF(LOGICAL_TEST, VALUE_IF_TRUE, VALUE_IF_FALSE)
   - Example: =IF(A2>35,"PASS","FAIL")
   - Answer: FAIL

<table>
<thead>
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<th></th>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>1</td>
<td>PER</td>
<td>CLASS</td>
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<tr>
<td>2</td>
<td>34</td>
<td>=IF(A2&gt;35,&quot;PASS&quot;,&quot;FAIL&quot;)</td>
</tr>
</tbody>
</table>

**FINANCIAL FUNCTIONS:**

1. **RATE()**
   - Returns the interest rate for an annuity.
   - Syntax: RATE( Number_Payments, Payment, PV [FV], [Type], [Estimate])
   - Number_Payments is the number of payments for the annuity.
   - Payment is the amount of the payment made each period.
   - PV is the Present Value.
   - FV is optional. It is the Future Value.
   - Type is Optional. It indicates when the payments are due.

2. **PMT()**
   - Returns the payment for a loan based on constant amount and a fixed interest.
   - Syntax: PMT(RATE, NPER, PV, FV, TYPE)
   - RATE – Is the interest rate per period.
   - NPER - Is the total number of payments, periods in an annuity.
   - PV – Is the loan amount
   - Example: =PMT(B1/12,B2*12,B3,0,1)
• Ans : 3,288.55

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<tbody>
<tr>
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<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Loan amount</td>
<td>100000.00</td>
</tr>
<tr>
<td>4</td>
<td>payment</td>
<td>(= \text{PMT}(B1/12, B2*12, B3, 0, 1))</td>
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</tbody>
</table>

3. FV()

• Returns the future value of an investment based on periodic, constant payments and a constant interest.
• Syntax: FV(RATE,NPER,PMT,FV,TYPE)
• RATE – Is the interest rate per period.
• NPER - Is the total number of payments, periods in an annuity.
• PMT – Is the payment made each period, includes principal amount, interest amount.
• Example: \(= \text{FV}(B1/12, B2*12, B3, 0, 1)\)
• Ans : 43,507.65

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<td>2</td>
<td>TERM</td>
<td>3</td>
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<tr>
<td>3</td>
<td>Monthly Deposit</td>
<td>1000</td>
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<tr>
<td>4</td>
<td>Future Value</td>
<td>(= \text{FV}(B1/12, B2*12, B3, 0, 1))</td>
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</tbody>
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**Logical Functions**

- **AND**: Returns TRUE if all its arguments are TRUE
- **IF**: Specifies a logical test to perform
- **NOT**: Reverses the logic of its argument
- **OR**: Returns TRUE if any argument is TRUE

**Date and Time Functions**

- **DATE**: Returns the serial number of a particular date
- **DATEDIF**: Calculates the difference between two dates.
- **DAY**: Converts a serial number to a day of the month
- **HOUR**: Converts a serial number to an hour
- **MINUTE**: Converts a serial number to a minute
- **MONTH**: Converts a serial number to a month
- **NOW**: Returns the serial number of the current date and time
- **TIME**: Returns the serial number of a particular time
- **TODAY**: Returns the serial number of today's date
- **WEEKDAY**: Converts a serial number to a day of the week
- **YEAR**: Converts a serial number to a year
What is Macro?
- Macro is a small program that carries out pre-defined and pre-recorded series of steps by giving a few keyboard shortcuts or by running the macro name.

Explain the steps for creating the macro.
- Select TOOLS->MACRO-> RECORD NEW MACRO
  - This opens the Record Macro dialog box, specify the macro name and keyboard shortcut.
  - Then Click on OK. A very small “Stop Recording” toolbar will appear on the screen.
- You can now proceed on to record your macro. Just perform all the essential steps to complete your particular task
- The click on “Stop Recording” button available on the “Stop Recording” toolbar.

<table>
<thead>
<tr>
<th>Mathematical Functions</th>
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<td>EVEN</td>
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<td>FACT</td>
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<td>GCD</td>
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<td>SUM</td>
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<th>Text Functions</th>
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<tr>
<td>CONCATENATE</td>
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<td>EXACT</td>
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<tr>
<td>FIND</td>
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<td>TRIM</td>
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<td>UPPER</td>
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</tbody>
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Mathematical Functions
- EVEN: Rounds a number up to the nearest even integer
- FACT: Returns the factorial of a number
- GCD: Returns the greatest common divisor
- INT: Rounds a number down to the nearest integer
- LCM: Returns the least common multiple
- MMULT: Returns the matrix product of two arrays
- MOD: Returns the remainder from division
- ODD: Rounds a number up to the nearest odd integer
- PI: Returns the value of Pi
- POWER: Returns the result of a number raised to a power
- PRODUCT: Multiplies its arguments
- QUOTIENT: Returns the integer portion of a division
- ROUND: Rounds a number to a specified number of digits
- SUM: Adds its arguments

Text Functions
- CONCATENATE: Joins several text items into one text item
- EXACT: Checks to see if two text values are identical
- FIND: Finds one text value within another (case-sensitive)
- LEFT: Returns the leftmost characters from a text value
- LEN: Returns the number of characters in a text string
- LOWER: Converts text to lowercase
- REPLACE: Replaces characters within text
- RIGHT: Returns the rightmost characters from a text value
- TRIM: Removes spaces from text
- UPPER: Converts text to uppercase
• Run the macro by using keyboard shortcut, i.e.”ctrl + shift + key” or select TOOLS->MACRO->MACROS, Select macro name that you want to execute.

➤ How do you delete a Macro?
• Select TOOLS->MACRO->MACROS, select the macro name.
• Click on Delete.

➤ Mention the types of Databases
• Internal Database – Database created in the worksheet.
• External Database – Database which is created through other DBMS or RDBMS package like MS-ACCESS, FOXPRO, dBASE, SQL SERVER, ORACLE etc.

➤ Creation of internal databases using built –in data form
• The Databases are entered and maintained by typing directly onto a worksheet.

➤ Functions of DATA->FORM
• Displays one record at a time
• Allow you to add new records and edit existing records
• Allow you to view records matching the specified criteria.

➤ What is Chart?
• Chart is a pictorial or graphical representation of numeric data.

➤ Write any five advantages of Chart.
• Data Effective
• Interesting and various formatting options are available
• Easy to understand
• Easy to Analyze
• Compare data

➤ Mention any types of Chart
• Line chart
• Bar Chart
• Column Chart
• Pie Chart
• Area Chart

➤ Explain the steps for creation of a chart.
• To create a chart
1. Select all the cells containing data including labels.
2. Click the **Insert** tab. Select any type of the Charts group. A list of chart sub-types appears.
3. Click any Chart option.
4. The chart will be created depending upon your choice.

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**Strength**

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- 7th
- 8th
- 9th
- 10th

**Strength**

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- 7th
- 8th
- 9th
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**CHAPTER 16 – SPREADSHEET BLUE PRINT**

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<th>LA (3 Marks)</th>
<th>Essay (5 Marks)</th>
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<td>02 Question</td>
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