

Lab Manual  
Introduction to Information & Communication Technologies

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Course Instructor  
Semester

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## Week-05

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### Objectives

After performing this lab, students shall be able to:

- Background insertion.
- Formula calculation and data validation.
- Look up and IF formula.
- Conditional Formatting.
- Drop down lists.
- Pivot table and chart

### Task List

#### Task-1 Background and picture insertion

Add a background image of Comsats logo to your work book. Add the following data and table heading. Use auto complete function for the first two columns.

S.NO	Reg NO	Student Name	Theory 50	Lab exam 50	Result 100
1	F16-23	Abdullah	50	39	89
2	F16-24	Yumna	23	25	48
3	F16-25	Amna	45	50	95
4	F16-26	David	15	10	25
5	F16-27	Albert	32	45	77
6	F16-28	Rani	35	42	77
7	F16-29	Harry	45	50	95
8	F16-30	Tahira	29	30	59
9	F16-31	Danyal	45	49	94
10	F16-32	Hina	49	50	99

#### Task-2 Formula Calculation and data validation

Calculate the Result column by adding lab and theory marks. Also apply data validation for the lab and theory marks such that all values are in the range of 0-100.

#### Task-3 Look up formula

Now add a column naming grade and auto populate it using the lookup formula.

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HINT:

Use a table for the grade range as given.

0	F
50	D
65	C
80	B
90	A

The first column should contain the value and the second column contains the grade also make sure that the data is in ascending order. Then use the formula LOOKUP(Lookup value, lookup vector, result vector).

### Task-4 IF function

Add another column in the table with the heading Remarks and using the IF function fill the column using the criteria for total marks less than 50 write fail and for above 50 write pass.

S.NO	Reg NO	Student Name	Theory 50	Lab exam 50	Result 100	Grade	Remarks
1	F16-23	Abdullah	50	39	89	B	Pass
2	F16-24	Yumna	23	25	48	F	fail
3	F16-25	Amna	45	50	95	A	Pass
4	F16-26	David	15	10	25	F	fail
5	F16-27	Albert	32	45	77	C	Pass
6	F16-28	Rani	35	42	77	C	Pass
7	F16-29	Harry	45	50	95	A	Pass
8	F16-30	Tahira	29	30	59	D	Pass
9	F16-31	Danyal	45	49	94	A	Pass
10	F16-32	Hina	49	50	99	A	Pass

### Task-5 Conditional formatting

Add another column name attendance in the table. Use percentage formatting for the entire column with no decimal places. Also format the Result column for three colors red, green and yellow such that red indicates the lowest mark, yellow indicating the medium range and green indicating the highest marks. Also apply conditional icons on the attendance table such that attendance below 80 gets a different icon then the attendance above 80. Also format the entire table. Lastly sort the result column from the smallest to largest value.

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Reg No	Student Name	Theory 50	Lab exam 50	Result 100	Grade	Remarks	Attendance
F16-26	David	15	10	25	F	fail	90%
F16-24	Yumna	23	25	48	F	fail	45%
F16-30	Tahira	29	30	59	D	Pass	95%
F16-27	Albert	32	45	77	C	Pass	95%
F16-28	Rani	35	42	77	C	Pass	25%
F16-23	Abdullah	50	39	89	B	Pass	50%
F16-31	Danyal	45	49	94	A	Pass	80%
F16-25	Amna	45	50	95	A	Pass	80%
F16-29	Harry	45	50	95	A	Pass	100%
F16-32	Hina	49	50	99	A	Pass	80%

### Task-6 Creating a drop down list

Add another column “Major” and fill it using the drop down list. You can find the option under data validation option. Use the following options for the major list BSSE, BSIT, BSCS. Also program the error message to appear as shown below. Also add a gender column using the same list function.

Invalid Major

This major is not listed

Reply Cancel Help

Use this information to help?

Reg No	Student Name	Theory 50	Lab exam 50	Result 100	Grade	Remarks	Attendance	Major	Gender
F16-26	David	15	10	25	F	fail	90%	BSSE	Male
F16-24	Yumna	23	25	48	F	fail	45%	BSCS	Female
F16-30	Tahira	29	30	59	D	Pass	95%	BSIT	Female
F16-27	Albert	32	45	77	C	Pass	95%	BSCS	Male
F16-28	Rani	35	42	77	C	Pass	25%	BSCS	Female
F16-23	Abdullah	50	39	89	B	Pass	50%	BSCS	Male
F16-31	Danyal	45	49	94	A	Pass	80%	BSIT	Female
F16-25	Amna	45	50	95	A	Pass	80%	BSSE	Female
F16-29	Harry	45	50	95	A	Pass	100%	BSSE	Male
F16-32	Hina	49	50	99	A	Pass	80%	BSIT	Female

### Task-7 Pivot table and pivot chart

Create a pivot table for the above table. Use gender as rows, major as column and average of marks as values. Also add a pivot chart for the analysed data.

