LAB Assignment #03

Application of Information and Communication Technologies BSCS 1st

Deadline: 13-03-24

Note:

1. **Perform all steps given in assignment**
2. **Copied assignment will not be accepted**
3. **You must be able to perform same steps in Lab**
4. **There are total 4 practical's, and each practical contains 2 to 3 questions. You have to create 4 excel files and solve each questions on different sheets naming sheets with question number.**
5. **Submit assignment in soft form, copy all practicals in a folder and name of folder should be as follow:**
   Roll no-name i.e. B230313001-Ali

PRACTICAL-01

Q. 1 The following worksheet contains Roll.Nos. & Marks in 5 subject of a student. Calculate his grades as per the following :

Marks	**Grades**
0-40	4
40-50	3
50-60	2
60 & above	1

	A	**B**	**C**	**D**	**E**	**F**
1	Roll No.	ENG	HINDI	SCIENCE	MATHS	SO. SCI
2	110	45	56	67	**78**	**60**
3	GRADE					
4						
5						
6						
7						
8						
9						
10						
11						

Answer:

Enter headings & data as shown in columns A to F

To calculate GRADES using HLOOKUP

1. Enter Marks & Grades in rows 8 & 9 as follows

	A	**B**	**C**	**D**	**E**
8	MARKS	0	40	50	**60**
9	GRADE	4	3	2	**1**

2. At B3 enter =HLOOKUP(B2, $B$8:$E$9 , 2)
3. Grade is displayed for the first subject. Drag the formula up to F3 to get grades

for all the subjects.

Q. 2The following worksheet contains Names & Sale for 10 salesmen.

Calculate their bonus as per the following :

Sale	**Bonus**
0-30000	0
30000-40000	3000
40000-50000	4000
50000-60000	5000
60000-70000	6000
70000-80000	7000
80000 & above	8000

	A	**B**	**C**	**D**			**H**	**I**
1	NAME	SALE	BONUS				0	0
2	Deep	30000					**30000**	3000
3	Jayesh	40000					**40000**	4000
4	Yash	45000					**50000**	5000
5	Sara	48000					**60000**	6000
6	Gita	55000					**70000**	7000
7	Jinal	32000					**80000**	8000
8	Kavita	66000						
9	Minal	23000						
10	Naresh	43000						
11	Rima	37000						

Answer:

Enter headings & data as shown in columns A to F

To calculate BONUS using VLOOKUP

1. Enter Sale & Bonus in columns H & I as follows

H	**I**
0	0
30000	3000
40000	4000
50000	5000
60000	6000
70000	7000
80000	8000

2. At C2 enter =VLOOKUP(B2, $H$1:$I$7 , 2)
3. BONUS is displayed for the first salesman. Drag the formula up to C11 to get bonus for all the salesmen.

Q. 3 The following worksheet contains Customer No. , Number of units consumed for 10 customers.

Calculate their bill amount as per the following :

Number of units	**Rate**
< 200	Rs. 3
>=200, < 500	Rs. 6
>= 500	Rs. 10

	A	**B**	**C**	**D**			**H**	**I**
1	Cust. No.	No.of Units	Rate	Bill Amount			Units	Rate
2	1101	340					**0**	**3**
3	1102	180					**200**	6
4	1103	400					**500**	8
5	1104	600						
6	1105	350						
7	1106	470						
8	1107	890						
9	1108	200						
10	1109	500						
11	1110	360						

Answer:

Enter headings & data as shown in columns H to I

To calculate RATE using LOOKUP

1. Enter Units & Rate in columns H & I as follows

H	**I**
0	**3**
2006	
500	8

2. At C2 enter =LOOKUP(B2, $H$2:$H$4 , $I$2:$I$4)
3. Rate is displayed for the first customer. Drag the formula up to C11 to get bonus for all the customers.
4. In D2 enter the formula = B2*C2
5. Bill amount is displayed for the first customer. Drag the formula up to D11 to get bonus for all the customers.

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EXCEL PRACTICAL – 2

Q1 . A worksheet contains Roll Number , Marks in 2 subjects for 50 students in a class. Calculate Result and Grade using the following:

A student is declared as PASS if he gets 40 or more in both the subjects , Otherwise FAIL.

All FAILED students will be given Grade IV

For PASSED students Grade will be obtained as follows :

AVERAGE	GRADE
>=60	I
<60 but >=50	II
<50 but >=40	III

	A	B	C	D	E	F
1	ROLL	SUB1	SUB2	AVERAGE	RESULT	GRADE
:						
51						

Answer:

Enter headings and data as shown above

To calculate AVERAGE

In cell D2 enter the formula = AVERAGE (B2:C2) or = (B2 + C2)/2 and press enter key

It shows AVERAGE for the first student

Drag the formula up to D51

To find RESULT

In cell E2 enter the formula = IF(AND(B2>=40,C2>=40),”PASS”,”FAIL”) and press enter key

It shows Result for the first student

Drag the formula up to E51

To find GRADE

In cell E2 enter the formula = IF(E2=”FAIL”,”IV”,IF(D2>=60,”I”,IF(D2>=50,”II”,”III”))) and press enter key

It shows Grade for the first student

Drag the formula up to E51

Q2. The following worksheet contains Name & Sales of 10 salesmen .Calculate commission as per the following:

Sales	Commission
First 30,000	5%
Next 40,000	10%
Excess	15%

	A	B	C
1	NAME	SALE	COMMISSION
2			
:			
:			
11			

Answer:

Enter headings and data as shown above

To calculate commission

In cell C2 enter the formula

= IF(B2 <30000, B2*5%,IF(B2<=70000,1500+(B2-30000)*10%, 1500 +4000+ (B2-70000)*15%)) and press enter key

It shows Commission for the first salesman. Drag the formula up to C11.

Q3. The following worksheet contains Name & Taxable Income for 50 employees .Calculate Income Tax Surcharge and Total Tax for the following worksheet

	A	B	C	D	E
1	NAME	TAXABLE INCOME	INCOME TAX	SURCHARGE	TOTAL TAX
2					
:					
:					
50					

Income Tax is calculated as follows :

Taxable Income	Income tax
First 1,50,000	Nil
Next 1,00,000	10%
Next 75,000	20%
Excess	30%

Surcharge is 3% on Income Tax if Taxable income is above 5,00,000

Answer:

Enter headings and data as shown above

To calculate INCOME TAX

In cell C2 enter the formula

= IF(B2 <150000, 0,IF(B2<=250000,(B2-150000)*10%,IF(B2<=325000, 10000 + (B2-250000)*20%,25000+(B2-325000)*30%)))

and press enter key

It shows Income Tax for the first employee

Drag the formula up to C51

To calculate SURCHARGE

In cell D2 enter the formula = IF(B2 <500000, 0,C2*3%)and press enter

key It shows Surcharge for the first employee Drag the formula up to D51

To calculate TOTAL TAX

In cell E2 enter the formula = C2+D2 and press enter key

It shows Total Tax for the first employee

Drag the formula up to E51

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EXCEL PRACTICAL – 3

Q.1 A worksheet contains following data :

	A	B	C	D	E
1	NAME	GENDER	CLASS	CATEGORY	FEES
2	Deep	M	FY	Open	**3000**
3	Jayesh	M	SY	Reserved	**1000**
4	Yash	M	TY	Reserved	**1000**
5	Sara	F	FY	Reserved	**500**
6	Gita	F	FY	Open	**3000**
7	Jinal	F	TY	Open	**5000**
8	Kavita	F	SY	Open	**4000**
9	Minal	F	SY	Reserved	**1000**
10	Karan	M	TY	Reserved	**1000**
11	Abhay	M	TY	Open	**5000**
12	Bina	F	FY	Open	**3000**
13	Seema	F	FY	Reserved	**500**
14	Naresh	M	FY	Reserved	**500**
15	Rima	F	TY	Open	**5000**
16	Gajendra	M	SY	Open	**4000**

Filter the worksheet to show

a) Female students from Reserved category
b) Male students from TY
c) Open category students paying fees > 3000

Answer:

a) To display female students from Reserved category

1. Copy paste the header row to some other location in the worksheet say G1
2. Under Gender and Category type F and Reserved respectively
3. Select the entire data A1 : E16
4. From the data tab select Filter Advanced
5. Advanced filter window is displayed
6. Under – Action, select Copy to another location say A20
7. It displays the list range as $A$1:$E$16
8. Click at criterion range. Select the range you have created along with the header row
9. Click at OK

b) To display Male students from TY

1. Copy paste the header row to some other location in the worksheet say G5
2. Under Gender and Class type M and TY respectively
3. Select the entire data A1 : E16
4. From the data tab select Filter Advanced
5. Advanced filter window is displayed
6. Under – Action, select Copy to another location say G20
7. It displays the list range as $A$1:$E$16
8. Click at criterion range. Select the range you have created along with the header row
9. Click at OK

c) To display Open category students paying fees > 3000

1. Copy paste the header row to some other location in the worksheet say G10
2. Under Category and fees type Open and >3000 respectively
3. Select the entire data A1 : E16
4. From the data tab select Filter Advanced
5. Advanced filter window is displayed
6. Under – Action, select Copy to another location say A20
7. It displays the list range as $A$1:$E$16
8. Click at criterion range. Select the range you have created along with the header row
9. Click at OK

Q.2 A worksheet contains name and marks in 3 subjects . Calculate Total Marks

	A	B	C	D	E
1	NAME	SUB 1	SUB 2	SUB 3	TOTAL MARKS
2	Deep	30	34	44	
3	Jayesh	40	35	45	
4	Yash	45	36	47	
5	Sara	48	32	50	
6	Gita	35	32	43	
7	Jinal	32	31	37	
8	Kavita	36	28	38	
9	Minal	23	25	40	
10	Naresh	43	27	50	
11	Rima	37	44	46	

a) Construct 3D Pie Chart for Total marks
b) Construct 2D Line Chart for Subject 1 and Subject 3
c) Construct 2D Column Chart for Sub1,Sub2,Sub3
d) Construct Stacked Column Chart for Sub1,Sub2,Sub3

Answers:

3D Pie Chart for Total marks

1. Select entire column of Total Marks ie E1:E11
2. Insert Tab—Chart group – Pie option—3D Pie Chart
3. 3D Pie diagram appears
4. Click at Chart tools – layout– Chart Title – Above the chart It displays a box above the chart.
   Click inside the box and type the title as

   3D PIE CHART FOR TOTAL MARKS

5. Click on the Legend area , right Click and Click at select Data

6. Click on Edit at Horizontal Axis Labels

7. Select range as A2:A11 (Click and drag) and OK

8. Names of students will be displayed in the legend area

2D Line Chart for Subject 1 and Subject 3

1. Select B1:B11 Keep pressing Cntrl Key & Select D1:D11
2. Insert Tab—Chart group – Line option— sub option 2D
3. 2D Line Chart appears
4. Click at Chart tools – layout– Chart Title – Above the chart It displays a box above the chart.
   Click inside the box and type the title as

   LINE CHART FOR SUBJECT 1 AND 3

5. Under layout menu of Chart tools, select Axis Title - sub option Primary horizontal axis – and position Below the Axis

   Axis Title box appears below the horizontal axis
   Click inside the box and type the title as Student Names

6. Under layout menu of Chart tools, select Axis Title - sub option Primary vertical axis – and position Rotated

   Axis Title box appears at the vertical axis in rotated position
   Click inside the box and type the title as Marks
7. Click on labels at Horizontal Axis , Right Click and select Data Labels option
   Click on Edit at Horizontal Axis Labels
   It asks for the range for Horizontal Axis
   Labels Select the range as A2:A11
   Names of students will be displayed in the Horizontal Axis area
   OK

2D Column Chart

1. Select A1 : D11
2. Insert Tab—Chart group – Column option— sub option 2D
3. 2D Column Chart appears
4. Under layout menu of Chart tools, select Chart Title , sub option Above the chart
5. It displays a box above the chart.
   Click inside the box and type the title as

   COLUMN CHART FOR SUBJECT 1 ,2 AND 3

6. Also specify the axis titles as explained above
7. Also specify the Horizontal axis labels as explained above

2D Stacked Column Chart

1. Select A1 : D11
2. Insert Tab—Chart group – Column option— sub option 2D – Stacked Column
3. 2D Stacked Column Chart appears
4. Under layout menu of Chart tools, select Chart Title , sub option Above the chart Click inside the box and type the title as

   STACKED COLUMN CHART FOR SUBJECT 1 ,2 AND 3

5. Also specify the axis titles as explained above
6. Also specify the Horizontal axis labels as explained above

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EXCEL PRACTICAL -4

Q. 1For the following worksheet containing amount spent for various items during the year , prepare scenarios where

a) Machinery increases to 80,000 , carriage increases to 9000 & Postage increases to 8000
b) Carriage increases to 10,000 Office equipment increases to 7000 and postage increases to 9000

	A	B
1	Items	Costs
2	Machinery	60000
3	Carriage	8000
4	Transport	30000
5	Office equipment	6000
6	Postage	7000
7	Miscellaneous	3000
8	Generator	5000
9	Total	119000

Answer:

1. Select Data tab – What if Analysis – Scenario Manager
2. Scenario Manager dialogue box appears
3. Click on Add in Scenario Manager

   Add Scenario dialog box appears

   At scenario name -type name as Current Expenses

   In changing sales -type B2:B8 – OK

4. Click on Add in Scenario Manager

   Add Scenario dialog box appears

   At scenario name -type Increase in Machinery and carriage

   Click on OK

5. At Scenario Values dialog box , type
   For Machinery Text box at $B$2 type 80000
   For Carriage Text box at $B$3 type 9000
   For Postage Text box at $B$6 type 8000

   Click on OK

6. Click on Add in Scenario Manager

   Add Scenario dialog box appears

   At scenario name -type Increase in carriage and office equipment

   Click on OK

7. At Scenario Values dialog box , type
   For Carriage Text box at $B$3 type 10000
   For office equipment Text box at $B$5 type
   7000 For Postage Text box at $B$6 type 9000

   Click on OK

8. At Scenario Manager dialog box , click on Summary
9. At Scenario Summary dialog box , click on Scenario Summary

   Type B9 in Result Cell

10. Scenarios are displayed on a new scenario worksheet

Q. 2 For the following worksheet obtain the solution for the cost price so that the profit will be 20000

	A	B	C	D
1	CP	ADVT	SP	PROFIT
2	9000	900	22000	
3				

Answer:

1. At D2 enter formula =C2-A2-B2
2. Click at D2
3. Click on Data--- Data Tools group --- What if analysis Subgroup --- Goal Seek option
4. Goal Seek dialogue box appears
5. Enter the following data at the Goal seek Dialogue box
   Set Cell $D$2
   To value 20000

6. It displays Goal Seek status as
   follows Goal seeking with cell D2
   Found a solution Target value
   20000 Current value 20000
   OK
7. It displays the output

Q. 3 Maximize the profit for the following

Current selling price of the bridal costume is Rs. 22000, The cost price is Rs. 10,000 The advertising expenses are Rs.500

The constraints are :

The cost budget should be between Rs.9000 and Rs.12000 &

the advertising expenditure ranges between Rs. 400 and Rs.1000

Answer:

Type the data as follows

	A	B	C	D
1	CP	ADVT	SP	PROFIT
2	10000	500	22000	
3				

1. Click on D2- Data---Analysis group --- Solver
2. Solver Parameters dialogue box appears . Enter the value as below
   Set objectives $D$2
   To Max
   By changing variable cells $A$2:$B$2
   Subject to constraints - Type the constraints one by one by clicking on Add
   When done Click on Solve.
3. It displays solver results dialogue box
   Click at Save scenario
   It asks you to enter name for
   scenario Enter S1
   OK
4. It displays the value . It also generates the reports
5. To view Answer Report
   At Solver results dialogue box
   Select Answer at Reports Tab
   OK

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