(2½ Hours)   [Total Marks: 75]

Note: 1) All questions carry equal marks and are compulsory.
       2) Figures to the right indicate maximum marks for a question.

Q1. (A)   Attempt any *two* sub-questions from a), b) and c) in MS-EXCEL   (2)
              (True or False)
      a)   When data is filtered it is also sorted in the ascending order.   **F**
      b)   Solver allows you to solve for more than one variable.   **T**
      c)   A function can contain another function in its argument.   **T**

      (B)   Attempt any *two* sub-questions from d), e) and f) in VISUAL BASIC   (2)
              (Multiple Choice)
      d)   The full form of VBP is _____.
               A) Visual Binary Project   *B) Visual Basic Project*
               C) Very Basic Project;   D) Visual Bio Parameter
      e)   The standard prefix for command Button is _____.
               A) cmd   B)com   C) comd   D)cdm
      f)   Visual Basic controls are _____.
               A)codes   *B) objects*   C)rules   D) part of the menus

      (C)   Attempt any *six* sub-questions from g), h), i), j), k), l), m), n), o) in   (6)
              E-Commerce. (True Or False).
      g)   E- Market, EDI and Internet are parts of E-Commerce.   **T**
      h)   Security is the major drawback of E-commerce.   **T**
      i)   Portals are one of the B2B model.   **F**
      j)   Authentication ensures that the buyer and seller do not deny that they have   **F**
              initiated the transaction.
      k)   Private key encryption has two keys.   **F**
      l)   In SET, the customer's credit card number is seen by the merchant.   **F**
      m)   Cipher texts are readable texts.   **F**
      n)   One of the payment systems in E-Commerce is online stored value systems.   **T**
      o)   A digital signature is a digital code that is attached to a message sent   **T**
              electronically.

      (D)   Attempt any *five* sub-questions from p), q), r), s), t), u), v), w) in E-   (5)
              Commerce. (Multiple Choice)
      p)   In _____ revenue model, revenue is generated from sales of goods,
              information or services.
              A)Affiliate   *B)Sales*   C)Transaction   D)Advertising
      q)   Online retail stores are often called as_____.
              A) Portal   B)Market Creator *C) E-Tailer*   D)Community Provider
      r)   The full form of SSL in E-Commerce is Secure _____ Layer.

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A) Socket   B) soft   C) secret   D) sanctioned

s)   olx.com is _____ model.
A)B2C   B)B2B   *C)C2C*   D) C2B

t)   The full form of P2P in E-Commerce is _____.
A) Peer to Peer   B) Person to Person
C) Peer to Person   D)Person to Peer

u)   Decryption is done by _____ with the help of private key.
A) Sender   *B) Receiver*   C) Both   D) Agent

v)   It is a convention that all sites that use SSL connection while making a secure connection, use _____instead of HTTP.
A)SMTP   *B)HTTPS*   C)FTP   D)TCP/IP

w)   The technology used to bring Internet content and services to mobile phones and other wireless devices is called_____.
A) WAP   B) SAP   C)WMP   D) WIP

Q2. (A)   Answer any *one* sub-question from a) and b) in E-Commerce.   (8)

a)   Explain i) advertising revenue model   ii)content provider
Theory. (Students can write answers in their own words. Please give marks as long as the content is correct.)

b)   Explain the Different payment Systems in E-commerce.
Theory. (Students can write answers in their own words. Please give marks as long as the content is correct.)

(B)   Answer any *one* sub-question from c) and d) in E-Commerce   (7)

c)   Explain SET in detail.
Theory. (Students can write answers in their own words. Please give marks as long as the content is correct.)

d)   What is M-Commerce? What are its applications?
Theory. (Students can write answers in their own words. Please give marks as long as the content is correct.)

Q3. (A)   Answer any *one* sub-question from a) and b) in MS-EXCEL   (8)

a)   The following data has been entered in a worksheet.

	A	B	C	D	E	F	G
1	NAME	ECO	MHRM	TAX	TOTAL	AVERAGE	GRADE
2	SUNITA	66	77	70			
3	JAY	80	82	87			
4	SEEMA	45	54	55			
5	AARTI	40	45	48			
6	HIRAL	77	84	80			
7	PRAKASH	65	66	69			

Write steps to
i) Find the Total marks in column E.
ii) Find the Average marks in column F.
iii) Assign Grade in Column G using the following policy:

Total Marks	Grade
240 or more	O

180 or more but below 240	A
Less than 180	B

ANS:

Total Marks: (2 Marks)

1. Select E2 and type =SUM (B2:D2) and press enter.
2. Select E2 and drag the fill handle till E7.

Average Marks: (2 Marks)

1. Select F2 and type =AVERAGE (B2:D2) and press enter.
2. Select F2 and drag the fill handle till F7.

Grade: (4 Marks)

1. Select G2 and type the formula =IF(E2>=240,"O",IF(E2>=180,"A","B"))
2. Select G2 and drag the fill handle to G7.

b) Consider the following worksheet

	A	B	C	D
1	NAME	TAXABLE INCOME	INCOME TAX	SURCHARGE
2	RAHUL	800000		
3	ANJALI	1000000		
4	POOJA	1500000		
5	RAJ	650000		
6	KAJOL	400000		
7	ADITYA	2400000		
8	SEEMA	600000		

Write steps to calculate

i) Income Tax in column C where Income-Tax is calculated as follows.

Taxable Income	Rate
First 5,00,000	Nil
Next 3,00,000	10%
Excess	20%

ii) Surcharge in column D, where surcharge is 5% of the income tax for those whose taxable income is above Rs.10, 00,000 otherwise there is no surcharge.

ANS:

i) To calculate Income Tax: (5 Marks)

1. Select C2 and type =IF (B2<=500000, 0, IF (B2<=800000, (B2-500000)*.10, (B2-800000)*.20+500000*.10)) and press enter.
2. Select C2 and drag the fill handle to C8.

ii) To calculate surcharge: (3 Marks)

1. Select D2 and type =IF (B2 > 1000000, C2*5%, 0) and press enter.
2. Select D2 and drag the fill handle to D8.

(B)   Answer any *one* sub-question from c) and d) in MS-EXCEL   (7)

c) Consider the following worksheet:

	A	B	C	D	E	F
1	NAME	CITY	DEPT	SALARY	HRA	DA
2	NAKUL	AGRA	HR	42000		
3	FALAK	BHOPAL	IT	35000		
4	PARTH	MUMBAI	HR	56000		
5	IRA	AGRA	SALES	45000		
6	RISHI	MUMBAI	IT	72000		
7	KIARA	BHOPAL	SALES	50000		
8	SAMAR	MUMBAI	SALES	75000		
9	MEERA	AGRA	IT	26000		

Write steps to perform the following:

i) To compute HRA as 25% of the Salary for salary up to 40,000 otherwise 40% of the salary in E.

ii) To compute the DA as 120% of salary for salary above 60000 otherwise 85% of salary in column F.

iii) To find the total of salary of only the MUMBAI City in cell B11.

(i) To compute HRA

1. Select E2 and type the formula

   =IF (D2<=40000, D2*25%, D2*40%) and press enter.

2. Select E2 and drag the fill handle to E9.

(ii) To compute DA

1. Select F2 and type the formula

   =IF (D2>60000, D2*120%, D2*85%) and press enter.

2. Select F2 and drag the fill handle to F9.

(iii) To find the total of salary of only the MUMBAI City in cell B11.

1. Select B11 and type the formula

   =SUMIF (B2:B9,"MUMBAI", D2:D9) and press enter.   **(Marks 3+3+1)**

d) The following worksheet displays the distance in Kilometers.

	A	B	C	D	E	F	G
1	DISTANCE	TRAIN FARE	BUS FARE		DISTANCE	TRAIN FARE	BUS FARE
2	42				0	10	12
3	34				20	20	25
4	5				40	35	45
5	65				60	50	60
6	120				80	70	80
7	85				100	90	100
8	22						

Write the steps to find the train and bus fare using VLOOKUP function in columns B and C. Policy table to be referred for finding the train and bus fare is given in the range E1:G7.

(Note if the Distance is say 32, which is above 20 and below 40 then the Train Fare will be 20)

ANS:

i)To calculate Train Fare
   1. Select B2 and type the formula =VLOOKUP(A2,$E$2:$G$7, 2, TRUE)
      OR =VLOOKUP(A2,$E$2:$G$7, 2) and press enter.
   2. Select B2 and drag the fill handle to B8.

ii)To calculate Bus Fare
   1. Select C2 and type the formula =VLOOKUP(A2,$E$2:$G$7, 3, TRUE)
      OR =VLOOKUP (A2,$E$2:$G$7, 3) and press enter.
   2. Select C2 and Drag the fill handle to C8.   **MARKS (4+3)**

Q4. (A)   Answer any *one* sub-question from a) and b) in MS-EXCEL   (8)

   a)   The following data is entered in a worksheet regarding expenses during
        September, October, November and December.

	A	B	C	D	E
1	ITEM	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
2	PRODUCTION	250000	255000	300000	320000
3	TRANSPORT	75000	76000	77000	77000
4	HR	10000	10000	10000	12000
5	ADVERTISING	50000	55000	62000	67000
6	TOTAL				

Write steps to
 i) Find the total expenses in each month in the cells B6, C6, D6 and E6.
ii) Create 3-D Bar chart for expenses of September, October, November and
December.
iii) Create a Pie chart for the expenses on Production.
iv) Create a Line diagram for the expenses on Transport and Advertising.
ANS:
i) **Find the total expenses in each month in the cells B6 to E6.**
       1. Select B6 and type
       =SUM (B2:B5) **OR** =B2+B3+B4 + B5 and press enter.
       2. Select B6 and drag the fill handle to E6.
ii) **To create 3-D Bar chart for the data**.
   1. Select the data A1:E6 (or A1:E5).
   2. From the **Insert tab,** select bar chart, then select sub type 3-D.
iii) **To create Pie chart for the expenses on Production.**
   1. Select the data A2:E2 (or B2:E2)
   2. From the **Insert tab,** select Pie chart, then select any sub type.
iv) **To Create a Line diagram for the expenses on Transport and
Advertising.**
   1. Select the data A3:E3 and A5:E5.
   2. From **Insert** Tab select **Line** and then select any Sub type.
                                          (**Marks 2+2+2+2**)

b) The following table shows Product, Quantity and Price of the Biscuits sold.

	A	B	C	D
1	NAME OF BISCUITS	QUANTITY	PRICE	REVENUE
2	OREO	150	50	
3	MONACO	220	25	
4	KRACKJACK	200	20	
5	MARIE	250	25	
6	BOURBON	350	40	
7	HIDE & SEEK	400	30	
8	TOTAL REVENUE			

Write steps to find Revenue of each type of Biscuit and Total revenue in column D.

Write steps in Excel using Solver to find what should be the price of each type of Biscuit in order to achieve total Revenue of 60000.

(REVENUE = QUANTITY*PRICE)

ANS:

i) REVENUE

1. Select D2 and type =B2*C2 and press enter.

2. Select D2 and drag the fill handle to D7.

ii) TOTAL REVENUE

1. Select D8 and type =SUM (D2:D7) and press enter.

iii) SOLVER

1. Select D8 and from the Data Tab select Solver.
2. In the dialog box in the 'Set objective' option the cell D8 is already selected.
3. In the 'To' option select 'Value of' and type 60000 in the text box.
4. In the option 'By Changing Variable cells' text box enter C2:C7
5. Then click on Solve. When Solver will obtain the result, click on ok.

(Marks 2+1+5)

Q4. (B) Answer any *one* sub-question from c) and d) in MS-EXCEL (7)

c) The following data has been entered in a Excel worksheet

	A	B	C	D
1	NAME	CITY	SALARY	BONUS
2	ALIYA	CHENNAI	42000	4200
3	BINITA	HYDERABAD	35000	3500
4	KABIR	JAIPUR	30000	3000
5	NAKUL	MUMBAI	50000	5000
6	DAMINI	CHENNAI	45000	4500
7	ADITYA	HYDERABAD	65000	6500
8	ISHANI	MUMBAI	54000	5400

Write steps to

i) Display only those rows where the City is "CHENNAI".

ii) Display only those rows where Salary is above average Salary.

iii) Display only those rows where the Bonus is more than 4,000 but less than 5,500.

ANS:
i) Display only those rows where the City is 'CHENNAI'.
  1. Select the data A1:D8
  2. From DATA Tab select Filter.
  3. Click on the drop down arrow of City and from text filter select equals
  4. Type 'CHENNAI' in the dialog box and click on ok.
ii) Display only those rows where Salary is above average Salary.
  1. Select the data A1:D8.
  2. From DATA Tab select Filter.
  3. Click on the drop down arrow of Salary and from number filter select 'above average'.
iii) Display only those rows where the Bonus is more than 4,000 but less than 5,500.
  1. Select the data A1:D8.
  2. From DATA Tab select Filter.
  3. Click on the drop down arrow of Bonus and from number filter select 'greater than'.
  4. Type 4000 in the dialog box and then select 'And'
  5. Select 'Less than' then type 5500 and click on ok.

(Marks 2+3+3)

d) Explain the following functions in MS-EXCEL.
  1) DAY()   2) NOW()   3) YEAR()   4) TIME()
  5) CORREL()   6) COUNTA()   7)LARGE()
ANS:
(Give 1 mark if either definition or example or syntax is correct for each function)
1. **DAY (serial number):** Returns the day of the month corresponding to a serial number or date text. The day returned has a value from 1 to 31. Note: Date text can be given in place of serial number.
e.g. =DAY(35) gives 4 and = DAY("23-02-2019")gives 23.
2. **NOW ( ):** Returns the current system date and time.
   e.g. =NOW() gives 17-11-2019 17:47
3. **YEAR (serial number):** Returns the year corresponding to a serial number or date text. The year returned has a value from 1900-9999.
e.g. =YEAR(35) gives 1900 and =YEAR("22-11-2019") gives 2019
4. **TIME (hour, minute, second):** Returns the particular time in hh:mm AM/PM format.
e.g. =TIME(14,23,45) returns 2:23PM
5. **CORREL(array1,array2):** Returns the correlation coefficient between two data sets.
e.g. If D1:D3 contains the values 45,34,67 and E1:E3 contains the values 49,44,75 then CORREL(D1:D3,E1:E3) gives .983358 the correlation coefficient between these two data sets.
We can also type =CORREL({45,34,67},{49,44,75}) which gives the same result .983358
6. **COUNTA(range):** Counts the number of cells in a range that are not

empty.

e.g. COUNTA(D1:D5) gives 2 if there are only two values in the cells from D1 to D5.

7. **LARGE (array, k):** Returns the kth largest value in the data set
   e.g. = LARGE({45,23,67,87},3) gives 45 the 3rd largest value.

Q5. (A)   Answer any *one* sub-question from a) and b) in VISUAL BASIC   (8)
Students can use different methods to solve VB questions. Label names, textbox names etc. are user defined, so can be different from given in this solution. Give full marks for correct answer even if it is not same as the solution given here. VB 6 .Text is not necessary so please give marks even if .Text is not written.

a)   Write a project in VB to design a suitable form which allows the user to enter Name and Basic salary. Calculate DA as 60% of Basic Salary whenever basic salary is less than 40000 otherwise 80% of Basic Salary using a 'Calculate' button and display the result.

Object	Property	Setting
Form	Name	frmDA
	Caption	DA
Label1	Name	lblName
	Caption	Name
Label2	Name	lblBsal
	Caption	BSalary
Label3	Name	lblDA
	Caption	DA
Text1	Name	txtName
	Text	(Blank)
Text2	Name	txtBsalary
	Text	(Blank)
Text3	Name	txtDA
	Text	(Blank)
Command1	Name	cmdCalculate
	Caption	Calculate
Command2	Name	cmdExit
	Caption	Exit

(4 Marks)

```
Private Sub cmdCalculate_Click()          (3 Marks)
  If Val(txtBsalary)<40000 Then
    txtDA = Val(txtBsalary)*.6
  Else
    txtDA = Val(txtBsalary)*.8
  End If
End Sub


Private Sub cmdExit_Click()               (1 Mark)
End
End Sub
```

b) Write a project in VB to design a suitable form which allows the user to enter amount in Rupees and rate of conversion to Dollars and then calculate and display equivalent amount in Dollars.

Object	Property	Value/Setting
Form	Name	frmConvert
	Caption	Convert to Dollars
Label	Name	lblRupee
	Caption	Rupees
Text Box	Name	txtRupees
	Text	(Blank)
Label	Name	lblRate
	Caption	Rate of Conversion
Text Box	Name	txtRate
	Text	(Blank)
Label	Name	lblDollar
	Caption	Amount in Dollars
Text Box	Name	txtDollar
	Text	(Blank)
Command	Name	CmdConvert
	Caption	Convert
Command	Name	CmdExit
	Caption	Exit

Private Sub CmdConvert_Click()
   txtDollar = Val(txtRupees)/Val(txtRate)
End Sub
Private Sub CmdExit_click()
   End
End Sub   (Marks 4+3+1)

Q5. (B)   Answer any *one* sub-question from c) and d) in VISUAL BASIC   (7)

c) Write a project in VB to design a suitable form which allows the user to enter an integer and calculate and display the factorial of that integer when the "Calculate" button is clicked.
(Factorial of N= 1*2*3----------*N)

Object	Property	Value/Setting
Form	Name	FrmFactorial
	Caption/Text	Factorial
Label 1	Name	lblN
	Caption/Text	Number
Label 2	Name	lblF
	Caption/Text	Factorial
Text box1	Name	txtN
	Text	(Blank)
Text box	Name	txtF
	Text	(Blank)
Command	Name/Text	CmdFactorial
	Caption	Calculate
Command	Name	CmdExit
	Caption/Text	Exit

```
Private Sub CmdFactorial_Click()
   Dim I, N, Factorial  As Integer
   N = Val(txtN.Text)
   Factorial=1
   For I=1 to N step 1
      Factorial= Factorial* I
   Next  I
   txtF.Text = Factorial
End Sub

Private Sub CmdExit_click()
   End
End Sub
```
                                                                    (Marks 3+3+1)

d) Write a project in VB to design a suitable form to enter any two integers and display average of these two integers.

Object	Property	Value
Form	Name	frmAverage
	Text	Average
Label1	Name	lblFirst
	Text	First Number
Label2	Name	lblSecond
	Text	Second Number
Label3	Name	lblAverage
	Text	Average
Text Box1	Name	txtF
	Text	Blank
Text Box2	Name	txtS
	Text	Blank
Text Box3	Name	txtAverage
	Text	Blank
Command1	Name	cmdCalculate
	Text	Calculate
Command2	Name	cmdExit
	Text	Exit

```
Private Sub cmdCalculate_Click()
txtAverage.Text = (Val(txtF.Text) + Val(txtS.Text))/2
End Sub

Private Sub cmdExit_Click()
End
End Sub
```
                                                                    (Marks 3+3+1)