

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) The result of a logical formula is a numeric value. **F**
 - b) The Trim() function removes all blank spaces from the string argument. **T**
 - c) Solver problems are limited to a single changing cell. **F**
- (B) Attempt any **two** sub-questions from d), e) and f) in VISUAL BASIC (2)
(Multiple Choice)
- d) Double clicking on the command button icon in the tool box will _____.
A) Do nothing B) Highlight it **C) Place it on the form** D) Delete it
 - e) _____ is the final keyword used to indicate the end of a sub procedure.
A) Exit Sub **B) End Sub** C) Exit D) Quit
 - f) The full form of VBP is _____.
A) Visual Binary Project **B) Visual Basic Project**
C) Very Basic Project; D) Visual Basic Parameter
- (C) Attempt any **six** sub-questions from g), h), i), j), k), l), m), n), o) in (6)
E-Commerce. (True Or False).
- g) Transaction broker earns money in the form of commission each time a transaction occurs. **T**
 - h) Richness refers to the total amount of information that is available to all the stakeholder. **F**
 - i) Content provider is one of the major B2B model. **F**
 - j) In SET the customer's credit card number is never seen by the merchant. **T**
 - k) Integrity refers to the ability to determine the origin of the message received over the Internet. **F**
 - l) The cost of the products sold through E-Commerce is very high. **F**
 - m) In SSL, encryption is based on session key which is unique and is different for each session. **T**
 - n) M-Commerce means buying and selling of goods and services using a laptop. **F**
 - o) Digital signature is used to authenticate the identity of a person involved in Ecommerce. **T**
- (D) Attempt any **five** sub-questions from p), q), r), s), t), u), v), w) in E-Commerce. (Multiple Choice) (5)
Please note for sub question u) both A and D is correct. Please give marks if student selects either of them or both of them.
- p) Yahoo is a _____.
A) Portal B)E-Tailer C) Transaction Broker D) None of these
 - q) In _____ E-Commerce one business makes deals with another Business.
A) C2C B) B2C **C) B2B** D) C2B

- r) The model in E-Commerce where companies earn revenue by referring users to other websites providing products/services is called _____ model.
 A) Advertising **B) Affiliation** C) Sales D) Transaction
- s) The full form of SET in E-Commerce is _____.
 A) Secure Electronic Tax **B) Secure Electronic Transaction**
 C) Secure Electronic Territory D) Secure Electronic Tunnel
- t) Conversion of coded data into readable data is called _____.
 A) De-conversion **B) Decryption** C) Encryption D) Password
- u) The sender and receiver will have the same key in _____ Key encryption
A) Symmetric B) Asymmetric C) Public **D) Private**
- v) _____ are sites that create a digital online environment where people with similar interest can do transaction.
A) Community Provider B) Market Creator
 C) Portal D) Service Provider
- w) A Computer to Computer exchange of business transaction is called _____.
 A) E-Business B) Super Market **C) EDI** D) E-Market

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

Students need not write exactly as the given answers, they can write answers in their own words. Please give marks as long as content is correct.

- a) Explain the features of E-Commerce.
(Give full marks if any four features are explained, 2 marks for each feature)

ANS: The important features of E-Commerce as listed below.

Ubiquity:

When we say that E-Commerce is ubiquitous, it means that it is available just about everywhere and at any time. It removes the boundaries of space and makes it possible to shop from the confines of your home or office and even when travelling by various modes of transport. Hence it liberates the market from any physical space that we normally associate with carrying out commerce.

Global Reach:

E-Commerce technology permits commercial transactions to cross various cultural boundaries, as well as the geographical boundaries that have been made by mankind across the globe. Hence the size of the market that is available for E-Commerce includes the entire population which is going online.

Universal Standards:

The technical standards used in E-Commerce are universal standards i.e. they are used all over the world. This is chiefly due to the fact that the technical standards used in the internet are universal standards, which are accepted and shared all over the world.

The use of these universal standards in E-Commerce has resulted in a great reduction in the costs involved in searching for products, as they can be viewed by one and all.

Interactivity:

The technologies used in E-Commerce are interactive i.e. they allow a two way communication between the parties involved in the transaction, which are the merchant making the sale and the buyer. For example, a website

may ask the consumer to fill in a form and depending on the data entered in that form, various options are displayed, from which the consumer can choose the appropriate one.

Richness:

Richness refers to the complexity and content of information on a product, which is traded in E-Commerce. Using audio and video the richness of the information that is given is greatly enhanced. This, in turn, becomes a powerful tool for selling in the commercial environment.

Information Density.

Information density refers to the total amount and quality of information that is available to all the stakeholders (market participants, consumers and merchants). The wide use of E-Commerce has greatly reduced the cost of collection of information, its storage, processing and communication.

Personalization.

This enables the merchants and traders to have better information of the requirements in the market, due to which they can modify their marketing strategies. Due to the interactive nature of technology used in E-Commerce, the past preferences and behavior of the user is known. This enables merchants to customize i.e. give the product or service as desired by the user.

b) Explain the following B2C models in E-commerce.

(i) E-Tailer (ii) Content Provider (iii) Transaction Broker

(Any one 3 marks, any two 6 marks all three 8 marks)

(i) E-tailer :

The customers and the seller interact directly, it includes

- Organize an online catalogue of products
- Take orders through Web site
- Shopping cart technology
- Accept payments in a secure environment
- Send merchandise to customers
- Manage customer data
- Market Web site to potential customers
- Revenue through product sales
- Low barriers to entry -> very competitive

(ii) Content providers :

Content providers distribute digital content (news, music, video and artwork) over the Web. Revenue is generated through subscription fees, pay for download, or advertising.

(iii) Transaction Broker :

Sites that process transactions for consumers. Its primary value proposition is saving of time and money for customers. It is a typical revenue model with a transaction fee is charged for facilitating transactions.

Industries using this model:

- Financial services
- Travel services
- Job placement services

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

(7)

c) What is M-commerce? What are its applications?

(If definition (1 mark) and any 3 applications (2 marks each) explained give full 7 marks)

Mobile Commerce commonly called m-commerce, means buying and selling of goods and services through wireless handheld devices such as mobile phones and Personal Digital Assistants (PDA). M-Commerce is about the growth of applications and services that have become accessible from internet enabled mobile phones. M-commerce is popularly called the next generation of E-Commerce. The technology used to bring internet content and services to mobile phones and other wireless devices is called Wireless Application Protocol (WAP).

Applications of M-Commerce are

1. Brokerage Services. Stock prices are regularly displayed on the mobile device and are available even when the person is on the move. Based on these stock quotes trading can be conducted directly from the mobile phone.
2. Financial Services. This includes mobile banking where bills can be paid using the mobile phone and customers have access to their bank accounts while they are on the move.
3. Retail and Services. This enables the mobile phone users to order for and pay for various services while on the move.
4. Information Services. This includes the sending of cricket scores, jokes, news, astrology etc. and even traffic updates.
5. Reservations. Here the mobile phone is used to make reservations in airlines and hotels.

d) Explain SET protocol.

ANS: The Secure Electronic Transaction (SET) is a protocol developed by Visa and Master Card to full proof the online Credit Card transactions and to provide security in terms of **Confidentiality, Integrity** and **Authenticity** of the transaction.

The main features of SET protocol are as follows:

1. In a SET protocol all the sensitive information sent between the customer, the merchant and the merchant's bank is encrypted.
 2. All the above three parties have to get themselves authenticated by the SET certificate authority.
 3. The customer's credit card number is never seen by the merchant.
- SET covers all the aspects of online commerce. It authenticates the identification of the parties involved in the transaction by using a combination of cryptography system along with digital certificates.

Q3. (A)

Answer any **one** sub-question from a) and b) in MS-EXCEL

(8)

a) Consider the following worksheet in Excel

	A	B	C	D	E
1	Name	Total Sales	Commission	Bonus	Total Earning
2	Karan	85000			
3	Anitha	63000			
4	Sharan	248000			
5	Megha	125000			
6	Pratham	260000			
7	Suhas	75000			

Write the steps to

i) Calculate Commission in column C using the following Commission Policy.

Sales Amount	Rate of Commission
First 50,000	8%
Next 75,000	10%
Excess	12%

ii) Calculate Bonus as 4% of the total sales whenever the sales is above Rs.2, 00, 000 otherwise no bonus is given.

iii) Total Earning = Commission+ Bonus

Commission:

1. Select C2 and type

=IF(B2<=50000,B2*8%, IF(B2<=125000,50000*8%+(B2-50000)*10%,50000*8%+75000*10%+(B2-125000)*12%))and press enter.

2. Select C2 and drag the fill handle to C7.

Bonus:

1. Select D2 type =IF (B2>200000, B2*4%, 0) and press enter.

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

Total Earning:

1. Select E2 type = C2+D2 and press enter.

2. Select E2 and drag the fill handle till E7.

MARKS(4+3+1)

b) Roll Number and marks are entered in columns A and B as shown in the following worksheet. Write steps to compute Grade and the Division for next year in Column C and D respectively using HLOOKUP function. Policy table to be referred for finding Grade and Division for next year is given in the range G1:J3.

	A	B	C	D	E	F	G	H	I	J
1	RNO	MARKS	GRADE	DIV		MARKS	0	40	70	80
2	23	86				GRADE	F	D	A	O
3	32	74				DIV	FAIL	DIV C	DIV B	DIV A
4	43	34								
5	56	44								
6	67	79								
7	70	98								
8	87	77								

i) For Grade

1. Select C2 and type the formula

=HLOOKUP(B2,\$G\$1:\$J\$3,2,TRUE)

OR =HLOOKUP(B2,\$G\$1:\$J\$3,2)

OR =HLOOKUP(B2,\$G\$1:\$J\$2,2,TRUE)

OR =HLOOKUP(B2,\$G\$1:\$J\$2,2)

2. Select C2 and drag the fill handle to C8.

(ii) For Division

1. Select D2 and type the formula

=HLOOKUP(B2,\$G\$1:\$J\$3,3,TRUE)

OR =HLOOKUP(B2,\$G\$1:\$J\$3,3)

2. Select D2 and Drag the fill handle to D8

MARKS (4+4)

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

(7)

c) Consider the following worksheet in Excel.

	A	B	C	D	E	F
1	Name	Basic Salary	City	DA	HRA	Gross
2	Anita	18650	Mumbai			
3	Sachin	29300	Pune			
4	Sunil	61000	Hyderabad			
5	Nirmal	50500	Mumbai			
6	Alpa	40000	Pune			

Write the steps to compute the following:-

i) DA as 125% of basic salary whenever the basic salary is 30,000 or less otherwise as 135% of the basic salary.

ii) HRA is 25000 for "Mumbai" city and 18000 for other cities.

iii) Gross = Basic Pay + DA + HRA

(i) To compute DA.

1. Select D2 and type the formula

=IF(B2<=30000, B2*125%, B2*135%) and press enter.

2. Select D2 and drag the fill handle to D6.

(ii) To find HRA.

1. Select E2 and type the formula

=IF(C2="MUMBAI", 25000, 18000) and press enter.

2. Select E2 and drag the fill handle to E6.

(iii) To find Gross Salary

1. Select F2 and type

=B2+D2+E2 and press enter.

2. Select F2 and drag the fill handle to F6.

(Marks 3+3+1)

d) Consider the following worksheet showing the electricity consumption in a building

	A	B	C	D	E	F	G	H	I
1	Flat	Units	Rate	Unit Consumption Charges	Fixed	Bill Amount		Units	Rate
2	101	50			65			0	2.60
3	102	120			90			100	5.62
4	201	600			300			300	7.20
5	201	340			150			500	8.95
6	301	245			90				
7	302	700			300				
8	401	45			65				

Write steps to compute the following

- i) Find Rate using VLOOKUP function. Policy table to be referred is in the range H1:I5
- ii) Calculate Unit Consumption Charges in column D where Unit Consumption Charges = units * rate
- iii) Bill Amount = Unit Consumption Charges + fixed charges

i) To find Rate

1. Select C2 and type the formula
=VLOOKUP(B2,\$H\$2:\$I\$5,2,TRUE)
OR =VLOOKUP(B2,\$H\$2:\$I\$5,2)

2. Select C2 and drag the fill handle to C8.

ii) To calculate Unit Consumption Charges

1. Select D2 and type the formula =B2*C2
2. Select D2 and Drag the fill handle to D8.

iii) To calculate Bill Amount

1. Select F2 and type the formula = D2+E2
2. Select F2 and Drag the fill handle to F8.

MARKS (4+2+1)

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

- a) The following table shows the shipment forecast of tablets, laptops and Desktop PCs worldwide for the year 2015, 2016, 2017 and 2018.

	A	B	C	D	E
1	PRODUCT	2015	2016	2017	2018
2	DESKTOP	113.6	103.3	97.8	94.4
3	LAPTOPS	163.1	156.8	161.6	162.3
4	TABLETS	208	174.9	163.7	150.3
5	TOTAL				

Write the steps to

- i) Find the total product shipped in the year 2015,2016,2017,2018 in the cells B5, C5, D5 and E5.
- ii) Create 3-D Bar chart for the year 2015,2016,2017,2018.
- iii) Create a Line diagram for the year 2015 and 2018
- iv) Create a Pie chart for the year 2017.

i) Find the total product:

(Marks 2+2+2+2)

1. Select B5 and type
=SUM (B2:B4) **OR** =B2+B3+B4 and press enter.
2. Select B5 and drag the fill handle to E5.

ii) To create Bar chart for the data.

1. Select the data B2:E4 (or A1:E4).
2. From the **Insert tab**, select bar chart, then select sub type 3-D.

iii) To Create a Line diagram for the year 2015 and 2018.

1. Select the data B2:B4 and D2:D4 (or B1:B4 and D1:D4)
2. From **Insert Tab** select **Line** and then select any Sub type.

iv) To create Pie chart for the year 2017.

1. Select the data D2:D4 (or D1:D4)
2. From the **Insert tab**, select Pie chart, then select any sub type.

- b) The following Excel worksheet contains the Sale Price Per Unit, and Units sold of some products in a year. Write steps in Excel to calculate Total Sales in column D and Grand Total in D5.

For the company to break even, it has to achieve a total sale of Rs. 18, 00, 000 in a year. Using solver, find out the number of units of each of these three products that should be sold in order to meet the desired target sale. Where Total Sales=Price*Quantity and Grand Total= Sum of D2 to D4

	A	B	C	D
1	PRODUCT NAME	PRICE	QUANTITY	TOTAL SALES
2	PEN DRIVE	450	100	
3	CHARGER	500	125	
4	MOUSE	650	250	
5	GRAND TOTAL			

i) Total Sales

1. Select D2 and type =B2*C2 and press enter.
2. Select D2 and drag the fill handle to D4.

ii) Grand Total

1. Select D5 and type =SUM (D2:D4) and press enter.

iii) SOLVER

1. Select D5 and from the Data Tab select Solver.
2. In the dialog box in the 'Set objective' option the cell D5 is already selected.
3. In the 'To' option select 'Value of' and type 18,00,000 in the text box.
4. In the option 'By Changing Variable cells' text box enter C2:C4
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	E
1	NAME	GENDER	AGE	CITY	SALES
2	MUKUND	M	25	SURAT	498000
3	RAVEENA	F	23	NASIK	575000
4	SNEHA	F	26	CHENNAI	378000
5	PRAVEEN	M	29	NASIK	600000
6	VILAS	M	32	KOLKOTA	645000
7	ANIKET	M	27	NAGPUR	792565

Write steps in Excel to

- (i) To display only the rows where the sales is less than 40000.
- (ii) To display only the rows where the gender is "M".
- (iii) To display only the rows where the city name starts with "N".

Solution:

- (i) i) Display only those rows where the sales is less than 40000.**

1. Select the data A1:E7.
2. From DATA Tab select Filter.

3. Click on the drop down arrow of Sales and from number filter select 'less than'.
 4. Type 40000 in the dialog box and click on ok.
- (ii) To display only those rows where the gender is "M".**
1. Select the data A1:E7
 2. From DATA Tab select Filter.
 3. Click on the drop down arrow of Gender and from Text filter select 'equals'.
 4. In the dialog box select (or type) M and click on ok.
- iii) To display only those rows where the city name starts with "N".**
1. Select the data A1:D7.
 2. From DATA Tab select Filter.
 3. Click on the drop down arrow of City and from Text filter select 'begins with'.
 4. In the dialog box type N and click on ok.
- d) Explain the following functions in MS-EXCEL.
- 1) DAY() 2) NOW() 3) YEAR() 4) DAYS360()
 - 5) CORREL() 6) COUNTA() 7) LARGE()

ANS:

(Give 1 mark if either definition or example or syntax is correct for each function)

1) DAY (): Syntax: DAY (Date/Serial number)

It 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("3-JUNE-2018") gives 3.

2) NOW (): It Returns the current system date and time. e.g. NOW() returns 11/04/2019 11:48

3) YEAR(): Syntax: YEAR(Date / Serial number)

It 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("3-JUNE-2018") gives 2018

4) DAYS360(): Syntax: DAYS360(start_date, end_date, method)

It Returns the number of days between two dates based on a 360-day year (twelve 30-day months), which is used in some accounting calculations.

Use this function to help compute payments if your accounting system is based on twelve 30-day months. Method is used to indicate U.S. or European method.

e.g. = DAYS360("6/1/09","6/4/09") gives 3.

5) CORREL(): Syntax: CORREL(array1,array2)

It 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(): Syntax: COUNTA(range)

It 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 (): Syntax : LARGE (array, k)

It Returns the kth largest value in the data set.

e.g. =LARGE ({45, 23, 67, 87}, 1) gives 87 the 1st largest value in this array.

=LARGE ({45, 23, 67, 87}, 2) gives 67 the 2nd largest value in this array.

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 Amount in Dollars and Rate of Conversion to Rupees and then calculate and display equivalent amount in Rupees.

Controls and their properties:

Object	Property	Value/Setting
Form	Name	frmDtoR
	Caption/Text	Convert to Rupees
Label	Name	lblD
	Caption/Text	Dollars
Label	Name	lblRC
	Caption/Text	Rate of Conversion
Label	Name	lblR
	Caption/Text	Amount in Rupees
Text Box	Name	txtD
	Text	
Text Box	Name	txtRate
	Text	
Text Box	Name	txtR
	Text	
Command	Name	cmdConvert
	Caption/Text	Convert
Command	Name	cmdExit
	Caption/Text	Exit

Code:

```
Private Sub cmdConvert_Click()  
    txtR.Text = Val(txtD.Text)*Val(txtRate.Text)  
End Sub
```

```
Private Sub cmdExit_click()  
    End  
End Sub
```

- b) Write a project in VB to design a suitable form which allows the user to enter Name and Basic Salary and calculate DA as 95% of Basic Salary whenever basic salary is less than 45000 otherwise 110% of Basic Salary using a 'Calculate' button and display the result.

Controls and their properties:

Object	Property	Value
Form	Name	frmDA
	Caption/Text	DA
Label	Name	lblBS
	Caption/Text	Basic Salary
Label	Name	lblDA
	Caption/Text	DA
Text Box	Name	txtBS
	Text	
Text Box	Name	txtDA
	Text	
Command Button	Name	cmdCalculate
	Caption/Text	Calculate
Command Button	Name	cmdExit
	Caption/Text	Exit

Code:

```

Private Sub cmdCalculate_Click()
    If Val(txtBS.Text) < 45000 Then
        txtDA.Text = Val(txtBS.Text) * 95/100
    Else
        txtDA.Text = Val(txtBS.Text) * 110/100
    End If
End Sub

Private Sub cmdExit_Click()
    End
End Sub

```

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 Product Name, Quantity Sold and Price per Unit of a product and then calculates and displays the Total Cost (Total Cost = Quantity Sold * Price per Unit)

Controls and their properties:

Object	Property	Value
Form	Name	frmCost
	Caption/Text	Total Cost
Label	Name	lblN
	Caption/Text	Product Name
Label	Name	lblQ
	Caption/Text	Quantity Sold
Label	Name	lblP
	Caption/Text	Price per Unit
Label	Name	lblTC
	Caption/Text	Total Cost
Text Box	Name	txtN
	Text	“ ” (blank)
Text Box	Name	txtQ
	Text	“ ” (blank)
Text Box	Name	txtP
	Text	“ ” (blank)
Text Box	Name	txtTC
	Text	“ ” (blank)
Command Button	Name	cmdCalculate
	Caption/Text	Calculate
Command Button	Name	cmdExit
	Caption/Text	Exit

Code:

```
Private Sub cmdCalculate_Click()
    txtTC.Text = Val(txtQ.Text) * Val(txtP.Text)
End Sub
```

```
Private Sub cmdExit_Click()
    End
End Sub
```

- d) 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)

Controls and their properties:

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

Code:

```
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
```