

COMPUTER APPLICATIONS IN BUSINESS – 2012

[MODIFIED AS PER THE SYLLABUS OF BCH 4.3]

Name of the Course : B.Com. (Hons.) CBCS
Name of the Paper : Computer Applications In Business

Attempt All questions.

PART A

Q. 1. State True (T) or False (F). Give reasons for the same: 2×5

- (a) ASCII-8 allows 255 different characters.
- (b) Multiprocessing operating system may run on the system having two or more processors.
- (c) A Search Engine works with the help of Spidering and Indexing Softwares.
- (d) One can change the Header and Footer details at any time in the presentations.
- (e) A cell reference only identifies single cell in a workbook.

Ans. (a) False. ASCII 8 allows 256 different characters.

- (b) True. A multiprocessing operating system is one that can run on computer systems that contain more than one processor.
- (c) True. A search engine works with the help of spidering and indexing software.
- (d) True. Header and footer can be changed anytime in the presentation, in Normal view or in Slide Sorter view, on the Outline tab or Slides tab by clicking on the slide that we want to change the header or footer information.

(e) False. A cell reference only identifies cell or group of cells in a workbook.

Q. 2. (a) Discuss the different types of computers based on technology. Also give an example of each type of computers. 5

(b) Define protocol. Explain any two protocols in detail. 5

Ans. (a) *Types of Computer*. According to technology, computers can be classified into three categories: *analog*, *digital*, and *hybrid*.

Analog computers. A computing machine that works on the principle of measuring, in which the measurements obtained are translated into desired data is known as *analog computer*. They usually employ electrical parameters, such as voltages, resistances or currents, to represent the quantities being manipulated. Such computers do not deal directly with the numbers. They measure continuous physical magnitudes (such as temperature, pressure and voltage), which are analogous to the numbers under consideration.

For example, the petrol pump may have an analog computer that converts the flow of pumped petrol into two measurements – the quantity of petrol and the price for that quantity.

Analog computers are used for scientific and engineering purposes. One of the characteristics of these computers is that they give approximate results since they deal with quantities that vary continuously. The main feature of analog

computers is that they are very fast in operation as all the calculations are done in 'parallel mode'. It is very easy to get graphical results directly using analog computers. However, the accuracy of analog computers is less.

Digital computers. A computer that operates with information, numerical or otherwise, represented in a digital form is known as a *digital computer*. Such computers process data (including text, sound, graphics, and videos) into a digital value (in 0s and 1s). In digital computers, analog quantities must be converted into digital quantities before processing. In this case, the output will also be digital. If analog output is desired, the digital output has to be converted into analog quantity. The components, which are performing these conversions, are the essential parts or peripherals of the digital computer.

Digital computers can give results with more accuracy and at a faster rate. The accuracy of such computers is limited only by the size of their registers and memory. The desktop PC is a classic example of a digital computer.

Hybrid computers. *Hybrid computer* incorporates both the measuring feature of an analog computer and counting feature of a digital computer. For computational purposes, these computers use the analog components and for the storage of intermediate results, digital memories are used. In order to bind the powers of analog and digital techniques, analog to digital and digital to analog, the hybrid computers comprehensively use converters. Such computers are broadly used for scientific applications, various fields of engineering and in industrial control processes.

(b) Protocol. Computers adhere to certain protocols that define the manner in which communication takes place. A *protocol* is a set of rules that coordinates the exchange of information. If one computer is sending information to another and they both follow the same protocol, the message gets through; regardless of what type of machines they are and on what operating systems they are running. Most commonly used protocols are:

- **Transmission Control Protocol/Internet Protocol (TCP/IP).** TCP and IP are the standards that enable computer users to exchange data through the Internet while sending a large block of data. TCP divides the data into small data packets and also adds some additional information (such as error correction code). IP puts destination address information on such data packets. TCP ensures that any data sent through the Internet reaches the destination computer intact while IP is responsible for routing the data packets to a desired destination IP address. TCP/IP are also called Internet Protocols.
- **File Transfer Protocol (FTP).** FTP is used to get the files or information from the Internet to a computer. FTP is a system of rules and software program that enables a user to log on to another computer and transfer information between it and his/her computer. FTP allows the user to get access to the files stored in the directory of a remote computer that is connected to the Internet. Using FTP, one can upload and download files from the remote computer (known as FTP servers), if he/she has access permission on the remote machine.
- **Hypertext Transfer Protocol (HTTP).** HTTP is the set of rules, or

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protocols that governs the transfer of hypertext between two or more computers. The World Wide Web encompasses the universe of information that is transferred via HTTP. HTTP is the Internet protocol responsible for transferring and displaying Web pages.

- **Telnet.** The word 'telnet' is derived from telecommunications and network and is a protocol that allows a user to log on to a remote computer. Telnet is also known as *remote login*, which means connecting one machine to another in such a way that a person may interact with another machine as if it is being used locally. *Example, Team Viewer.*

Or

(a) What are network devices? Explain with examples.

(b) Discuss briefly the features of latest Windows OS.

Ans. (a) See Q. 20, Unit II.

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(b) See Q. 24, Unit II.

[Page 14

Q. 3. (a) Discuss the steps involved in inserting a picture into a file in MS Word Document. 5

(b) Describe the various types of error values that might occur while working with the Functions and Formulas in MS Excel. 5

Ans. (a) See Q. 7, Unit II.

[Page 18

(b) Various types of error values that might occur while working with the functions and formulas in MS Excel. See Q. 15, Unit III. [Page 37

Or

(a) Discuss the different types of "Change Case" in MS Word Document. Explain with the help of examples. 5

(b) What is the difference between Formulas and Functions? Show the steps involved in inserting the functions in MS Excel. 5

Ans. (a) See Q. 33, Unit II.

[Page 30

(b) **Difference between Formulas and Functions in MS Excel.** Formulas are used to express mathematical relationships between cells.

For example, $C1=A1+B1$ would calculate and display the sum of cells A1 and B1 into cell C1. It could also be a simple mathematical formula, such as $(100 * 3)/40$, whereas functions are used as shortcuts when performing mathematical calculations. They are pre-programmed formulae that give power and flexibility to spreadsheet calculations. They prevent the user from having to continually enter long and cumbersome expressions.

Some examples are: SUM, AVERAGE, MAX, and MIN.

Steps to insert functions in Excel:

- (i) In a cell, type the equal sign (=) and then type a letter, such as "a," to see a list of available functions. Use the **down arrow key** to scroll down through the list.
- (ii) In the list, double-click the function that you want to use. Excel enters the function name in the cell, followed by an opening parenthesis; for example, =SUM(.
- (iii) Enter one or more arguments after the opening parenthesis, if necessary. Excel shows the user what type of information the user should enter as an argument.
- (iv) Press **ENTER**. Excel adds the closing parenthesis for the user, and the cell shows the result of the function that the user used in the formula

(v) Select the cell and look at the formula bar to view the formula.

Q. 4. (a) What is the role of Masters in PowerPoint? Differentiate between Slide Masters and Handout Masters. 5

(b) Describe the financial functions PPMT and IPMT along with their Syntax. Illustrate with the help of examples. 5

Ans. (a) Role of Masters in PowerPoint. The Master Slide is the design template or design theme used for the slides within a presentation. There are four different master slides – *title master*, *notes master*, *handout master* and the most common, *the slide master*. All slides in a presentation are created using the fonts, colours and graphics in the slide master, with the exception of the Title slide (which uses the title master). Each new slide that is created takes on these aspects. Many colorful, preset design templates are included with PowerPoint to make presentations more interesting. To make global changes to the slides, the master slide can be edited rather than each individual slide. A master slide is beneficial in a presentation because the user can propagate the general layout of the master slide through all the slides used in the presentation; that can include background, character format (i.e. size, font and else), date, slide number, icons or logos. In this sense, it also allows modifying the layout of the presentation much faster than if it had been done slide by slide.

Difference between Slide Masters and Handout Masters. The *slides* are used for presentation of information in a brief manner and *handouts* to be distributed among audiences in printed form. *Handouts* are the compressed printed versions of the *slides*, distributed to audience for future reference. A presentation can be printed in the form of *handouts* that contain one, two, three, four, six, or nine *slides* on a page. The *handout* master includes positioning, sizing, or formatting the header and footer placeholders. Any changes the user makes to the *handout* master also appear when a user prints the outline. The *slide master* includes the fonts, colours and graphics with which all the slides in a presentation are created.

(b) *Financial functions PPMT and IPMT.* See Q. 17, Unit III. [Page 38

Or

(a) What are the Components of MS Access?

(b) Explain the concept of referential integrity in relation to MS Access.

Ans. (a) *Components of MS Access.* See Q. 5, Unit IV. [Page 48

(b) *Referential integrity.* See Q. 9, Unit IV. [Page 52

PART B

Q. 5. Discuss any three different types of charts available in MS Excel with diagrams. 5

Ans. Charts (graphs) are used to represent data in pictorial form. They are visually appealing and make it easy for users to see comparisons, patterns and trends in data. For instance, rather than having to analyze several columns of worksheet numbers, you can see at a glance whether sales are falling or rising over quarterly periods, or how the actual sales compare to the projected sales.

Types of charts:

- **Column chart.** It is used to represent variation in the value of an item over time. It shows data changes over a period of time or depicts comparisons among items.

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Types of charts:

- **Column chart.** It is used to represent variation in the value of an item over time. It shows data changes over a period of time or depicts comparisons among items.

- **Bar chart.** It depicts comparisons among individual items. In bar charts, categories are organized vertically and values are organized horizontally.
- **Line chart.** It is used to depict trends in data at equal intervals. It is used to show the change in a value over a period of time. It emphasizes upon the flow of change rather than the amount of change.
- **Area chart.** It is a line chart with the area below the line filled. It plots multiple data series as cumulative layers with different colours, patterns and shades.
- **Pie chart.** It shows the relationship between pieces of an entity. It can show only one data series. Pie chart shows how each value in the data series relates proportionally to the whole data.
- **XY Scatter chart.** It either shows the relationships among numeric values in more than one data series or plots two groups of numbers as one series of XY coordinates. It shows uneven intervals of data used to present experimental results.

Q. 6. (a) Discuss the main steps involved in performing the "Linear Regression Analysis" on MS Excel Sheet. Also mention the syntax of Intercept and Slope Function. 5+10=15

(b) From the worksheet given below write down the appropriate formulas to calculate the following:

- Total Marks of each student in Column F
- Percentage of Marks of each student in Column G
- Highest Score obtained in Computer Subject in D9
- Lowest Score obtained in Total in D10
- Average Percentage of Marks obtained by all students in D11

1	A Sl. No.	B S_Name	C Law (Out of 100)	D Computer (Out of 100)	E Tax (Out of 100)	F Total Marks	G Aggregate Percentage of Marks
2	1	Ram	45	67	87	?	?
3	2	Elias	87	89	65	?	?
4	3	Farah	60	86	84	?	?
5	4	Sikha	84	94	92	?	?
6	5	John	49	86	65	?	?
7	6	Goutam	56	68	72	?	?
8							
9	Highest Score obtained in Computer			?			
10	Lowest Score obtained in Total			?			
11	Average Percentage of Marks obtained by all			?			

Ans. (a) Steps for Linear Regression Analysis. Linear regression produces the slope of a line that best fits a single set of data. Based on a year's worth of sales figures, *for example*, linear regression can tell the user projected sales for March of the following year by giving you the slope and y-intercept (that is, the point where the line crosses the y-axis) of the line that best fits the sales data.

Following steps are required for the analysis:

- (i) Type the values of given independent variable as well as dependent variable in two separate columns/rows.
- (ii) Calculate the intercept and slope based on the above data using intercept and slope functions.
- (iii) Find the trend values in a new column using the linear regression equation *viz.*, $y = a + bx$. The regression equation algebraically describes a straight line for a set of data with one independent variable where x is the independent variable, y is the dependent variable, b represents the slope of the line, and a represents the y-intercept.

Intercept function calculates the point at which a line will intersect the y-axis by using existing x -values and y -values. It takes the form =INTERCEPT(known_y's,known_x's); Known_y's is the dependent set of observations or data & Known_x's is the independent set of observations or data.

Slope function returns the slope of the linear regression line. The slope is defined as the vertical distance divided by the horizontal distance between any two points on the regression line. The SLOPE function takes the form =SLOPE(known_y's, known_x's).

- (b) (i) Type in cell F2= sum(C2:E2), press enter and then copy the formula in cells F3 to F7.
- (ii) Type in cell G2= F2/3, press Enter and then copy the formula in cells G3 to G7.
- (iii) Type in cell D9= max(D2:D7).
- (iv) Type in cell D10= min(F2:F7).
- (v) Type in cell D11= average(G2:G7).

Or

(a) Discuss the steps to find out the frequency of the given class intervals in MS Excel Sheet.

(b) Write down the appropriate formulas in the cells B6, B7, B8, B9 and B10 for the given number in cell A1 : E5 of MS Excel Sheet.

	A	B	C	D	E
1.	608	1442	1361	195	537
2.	791	877	1441	748	1139
3.	1092	292	1344	571	636
4.	625	1141	147	605	833
5.	843	172	828	365	937
6.	Lowest Number	?			
7.	Highest Number	?			
8.	Standard Deviation	?			

9.	Skewness	?			
10.	Count the number greater than 400	?			

Ans. (a) FREQUENCY function is used to find frequency of given numbers in a statistical problem. It returns the number of times that values occur within a population and takes the form =FREQUENCY(data_array, bins_array).

Steps to find out frequency of the given class interval:

- In the given excel sheet with the data for which frequency is to be obtained, set up two columns one with lower limit and the other with the upper limit of the given class intervals as bin values.
 - Select the entire range where we want the output of frequency to appear. This range must be a column, because FREQUENCY cannot use a row or multicolumn range as its output range.
 - Enter the formula =FREQUENCY(data_array, bins_array), specifying the input range as the first argument and the upper limit range as the second.
 - Press **Ctrl+Shift+Enter** to lock in the array formula.
- (b) (i) Type in cell B6=min(A1:A5)
(ii) Type in cell B7=max(A1:A5)
(iii) Type in cell B8=stdev(A1:A5)
(iv) Type in cell B9=skew(A1:A5)
(v) Type in cell B10=countif(A1:A5>400)

Q. 7. (a) Explain the function of "RAND" and "ROUND" functions with suitable examples. 5+10=15

(b) Mr. X borrowed as consumer loan a sum of ₹5,00,000 @ 10% p.a. for a period of 5 years, repayable in equated monthly instalments. Develop an appropriate generalized MS Excel sheet to show the repayment with respect to a loan. You are required to write down the appropriate formulas in the appropriate cells, i.e., B6, B7, B8, B12, C12, D12, D13, A13, B13, C13, D13 and E13 for the corresponding variables:

	A	B	C	D	E	F
1	Particulars	Figures	Units			
2	Amount of Loan	5,00,000	₹			
3	Period of Loan	5	Years			
4	Rate of Interest	10.0%	% PA			
5	Mode of Payment	12	Monthly			
6	Effective Rate of Interest	?				
7	Effective No. of Instalments	?				
8	Amount of Instalments	?				
9						
10		LOAN LEASE STATEMENT				
11	Instalment Number	Opening Balance	Interest Amount	Instalment Amount	Closing Balance	
12	1	?	?	?	?	
13	?	?	?	?	?	

Ans. (a) Function of "RAND" and "ROUND".

RAND function generates a random number between 0 and 1. Its syntax is =RAND() with no arguments, but you must still enter empty parentheses after the function name. The result changes with each sheet recalculation. To generate a random real number between 'a' and 'b', use: =RAND()*(b - a) + a

The RAND function is one of Excel's *volatile* functions, that is, it recalculates every time the sheet recalculates, which happens every time you make an entry in a cell. If you want to generate a set of random numbers and then "freeze" them, select all the RAND formulas in your sheet, Choose Edit, Copy, then choose Edit, Paste Special and choose the Values option to replace the volatile formulae with stable values.

ROUND. It rounds numbers to a specified number of decimal places and takes the form =ROUND(number, num_digits), where *number* can be a number, reference to a cell that contains a number, or a formula that results in a number. *num_digits* can be any positive or negative integer and determines the number of decimal places. Enter a negative *num_digits* to round to the left of the decimal point. Enter zero to round to the nearest integer.

RAND. Example, if =RAND() is entered in any cell the output will be a number between 0 and 1, such as 0.396418.

ROUND. Example, =ROUND(2.15, 1) Rounds 2.15 to one decimal place and output is 2.2. =ROUND(2.149, 1) Rounds 2.149 to one decimal place and output is 2.1. =ROUND(-1.475, 2) Rounds -1.475 to two decimal places and output is -1.48. =ROUND(21.5, -1) Rounds 21.5 to one decimal place to the left of the decimal point and the output is 20.

- (b) B6=B4/B15
B7=B3*B15
B8=pmt(B6,B7,-B2)
B12=B2
C12=B12*\$B\$6
D12=\$B\$8
E12=B12-(D12-C12)
A13=A12+1
B13=E12
C13= B13*\$B\$6
D13=\$B\$8
E13=B13-(D13-C13)

Or

(a) What are the different types of data that can be inserted in MS Excel? Also explain the different types of Operators in MS Excel.

(b) A company XYZ Ltd. pays a monthly salary to its employees which consists of basic salary, allowance and deductions. The details of allowances and deductions are as follows:

Allowance

- HRA

Dependent on Basic

30% of Basic if Basic ≤ ₹10,000

25% of Basic if Basic > ₹10,000 &

- DA Basic \leq ₹30,000
- Entertainment Allowance (EA) 20% of Basic if Basic $>$ ₹30,000
30% of Basic but subject to maximum ₹6,000
NIL if Basic is \leq ₹10,000
₹1,000 if Basic $>$ ₹10,000

Deductions

- Provident Fund (PF) 6% of (Basic + DA)
- Income Tax (IT) Flat 30% of Gross Salary

Calculate the following:

$$\text{Gross Salary (GS)} = \text{Basic} + \text{HRA} + \text{DA} + \text{EA}$$

$$\text{Net Salary (NS)} = \text{GS} - \text{PF} - \text{IT}$$

Write down the formulas in appropriate cell to calculate HRA, DA, EA, GS, PF, IT and NS.

	A	B	C	D	E	F	G	H
1	Basic	HRA	DA	EA	GS	PF	IT	NS
2	4,00,000	?	?	?	?	?	?	?

Ans. (a) The following types of data can be entered in MS Excel:

- Text data is most often words that are used for worksheet headings, names, and for identifying columns of data. Text data can contain letter numbers, and specialty characters such as ! or &. By default, text data is left aligned in a cell.
- Numbers can be used in calculations. By default, numbers are right aligned in a cell. In addition to actual numbers, such as 10, 20, 30, 40, Excel also stores dates and times as numbers. Problems can arise if numbers get stored as text data. This can prevent them from being used in calculations.
- Formulas.** A formula is a mathematical equation such as adding or subtracting two numbers. Formulas which includes Excel's functions are usually considered to be Numbers but they are sometimes identified as a separate type of data.

Different types of Operators in MS Excel. See Q. 15, Unit II.

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(b) HRA: B2= if(A2<10000,.30*A2,if(A2<30000,.25*A2,.20*A2)

DA: C2= min(6000,.30*A2)

EA: D2= if(A2>10000,1000,0)

GS: E2= sum(A2:D2)

PF: F2= .06*(A2+C2)

IT: G2= .30*E2

NS: H2= E2-F2-G2