**Course Code : CS-612** 

Course Title : PC Software and Application Skills There are four questions in this assignment. Answer all the questions. You may use illustrations and diagrams to enhance explanations.

### **Question 1:**

(a) What is a worksheet? How to create and format controls on worksheet.

**Hint:** A worksheet is a single page or sheet in an Excel spreadsheet. By default, there are three worksheets per file. Switching between worksheets is done by clicking on the sheet tab at the bottom of the screen. To create a professional looking appearance for a worksheet form, you should provide a consistent format to all controls and objects, and size them appropriately. You can resize a control by dragging its sizing handles or by entering measurements in the Format Control dialog box.

1. If one or more controls is an ActiveX control:

1. Make sure that the Developer tab is available. Display the Developer tab

2. Make sure that you are in design mode. On the Developer tab, in the Controls group, turn on Design Mode .

2. Select the control that you want to resize.

3. Do one of the following:

Resize by using the sizing handles

1. Position the pointer over one of the handles.

### 2. Do one of the following:

 $\hfill\square$  To increase or decrease the size in one or more directions, drag the mouse away from or toward the center.

□ To keep the center of a control in the same place, hold down CTRL while you drag the mouse.

□ To maintain the control's proportions, hold down SHIFT while you drag the mouse.

□ To maintain the proportions while keeping the center in the same place, hold down CTRL and SHIFT while you drag the mouse.

 Release the mouse, and then release CTRL or SHIFT. Resize by entering measurements
Right-click the selection and then click Format Control.

2. On the Size tab, enter measurements for the height and width of the control, or click the up or down arrow keys to move the height and width.

3. To maintain the control's proportions, select the Lock aspect ratio check box. NOTE The Reset button (which resets the original height and width), the Rotation text box, and the Relative to original picture size check box are not available. (b) What is need of a web browser? List the advantages and disadvantages of different browsers. Hint: A web browser or Internet browser is a software application for retrieving, presenting, and traversing information resources on the World. Wide Web. An information resource is identified by a uniform resource identifier (URI) and may be a web page, image, video, or other piece of content. Hyperlinks present in resources enable users to easily navigate their browsers to related resources. Although browsers are primarily intended to access the World Wide Web, they can also be used to access information provided by Web servers in private networks or files in file systems. Some browsers can also be used to save information resources to file systems. Mozilla released Firefox 3.0 on 17 June 2008, with performance improvements, and other new features. Firefox 3.5 followed on 30 June 2009 with further performance improvements, native integration of audio and video, and more privacy features. Google released the Chrome browser for Microsoft Windows on December 11, 2008, using the same Web Kit rendering engine as Safari and a faster JavaScript engine called V8. An open sourced version for the Windows, Mac OS X and Linux platforms was released under the name Chromium. According to Net Applications, Chrome had gained a 3.6% usage share by October 2009. After the release of the beta for Mac OS X and Linux, the market share had increased rapidly. On March 19, 2009, Microsoft released Internet Explorer 8, which added accelerators, improved privacy protection; a compatibility mode for pages designed for Internet Explorer 7 and improved support for various web standards. During December 2009 and January 2010, Stat Counter reported that its statistics indicated that Firefox 3.5 was the most popular browser, when counting individual browser versions, passing Internet Explorer 7 and 8 by a small margin. This is the first time a global statistic has reported that a non-Internet Explorer browser version has exceeded the top Internet Explorer version in usage share since the fall of Netscape Navigator. This feat, which Geek Smack called the "dethrone of Microsoft and its Internet Explorer 7 browser," can largely be attributed to the fact that it came at a time when IE 8 was replacing IE 7 as the dominant Internet Explorer version. No more than two months later IE 8 had established itself as the most popular browser version, a position which it still holds as of March 2011. It should also be noted that other major statistics, such as Net Applications, never report any non-IE browser version as having a higher usage share than the most popular Internet Explorer version, although Firefox 3.5 was reported as the third most popular browser version between December 2009 and February 2010, to be replaced by Firefox 3.6 since April 2010, each ahead of IE7 and behind IE6 and IE8. On January 21, 2010, Mozilla released Mozilla Firefox 3.6, which allows support for a new type of theme display, 'Personas', which allows users to change Firefox's appearance with a single click. Version 3.6 also improves JavaScript performance, overall browser responsiveness and startup times. In October 2010, Stat Counter reported that Internet Explorer had for the first time dropped below 50% market share to 49.87% in their figures. Also, Stat Counter reported Internet Explorer 8's first drop in usage share in the same month. On February 3, 2011, Google released Chrome 9. New features introduced include: support for WebGL, Chrome Instant, and the Chrome Web Store. Stat Counter global market share figures were as follows for February 2011. Internet Explorer 45%, Firefox 30%, Chrome 17%, Safari 5% and Opera 2%, leaving all the others sharing the remaining 1%.

Question 2:

(a) Differentiate between VLOOKUP () AND HLOOKUP () functions in MS\_EXCEL Hint: VLOOKUP ()

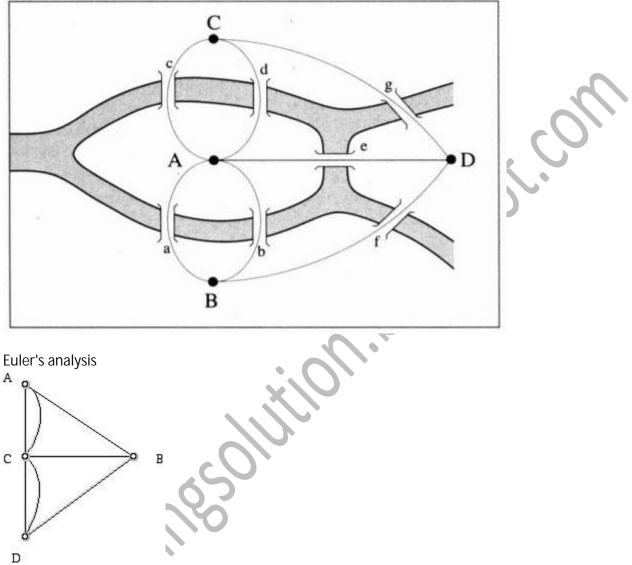
Searches for a value in the first column of a table array and returns a value in the same row from another column in the table array. The V in VLOOKUP stands for vertical. Use VLOOKUP instead of HLOOKUP when your comparison values are located in a column to the left of the data that you want to find. SYNTAX OF VLOOKUP

VLOOKUP(lookup\_value,table\_array,col\_index\_num,range\_lookup) Where Lookup\_value :- The value to search in the first column of the table array. Table\_Array :- Two or more columns of data. Col\_index :- The column number in table array from which the matching value must be returned. Range\_lookup :- A logical value that specifies whether you want VLOOKUP to find a match or an approximate match If TRUE or omitted, an exact or approximate match is returned. If an exact match is not found, the next largest value that is less than lookup value is returned. HLOOKUP () Searches for a value in the top row of a table or an array of values, and then returns a value in the same column from a row you specify in the table or array. Use HLOOKUP when your comparison values are located in a row across the top of a table of data, and you want to look down a specified number of rows. Use VLOOKUP when your comparison values are located in a column to the left of the data you want to find. SYNTAX OF HLOOKUP HLOOKUP

(lookup value,table array,row index num,range lookup) Where Lookup value :- The value to search in the first column of the table array. Table Array :- Two or more columns of data. row index :- The row number in table array from which the matching value must be returned. Range lookup :-A logical value that specifies whether you want VLOOKUP to find an exact match or an approximate match. If TRUE or omitted, approximate match is returned. If an exact match is not found, the next largest value that is less than lookup value is returned. (b) What is FTP? Explain how it is different from telnet. Hint: File Transfer Protocol (FTP) is a standard network protocol used to copy a file from one host to another over a TCP-based network, such as the Internet. FTP is built on client-server architecture and utilizes separate control and data connections between the client and server. FTP users may authenticate themselves using a clear-text sign-in protocol but can connect anonymously if the server is configured to allow it. The first FTP client applications were interactive command-line tools, implementing standard commands and syntax. Graphical user interface clients have since been developed for many of the popular desktop operating systems in use today. Both of these applications allow two different computers to communicate with each other. Telnet allows the user to log on to an account on a remote computer and work as if you were there. This is useful if you are traveling or are going to be away from your own computer and your local account but need to have access to the latter. You might be at a conference in another state and suddenly remember that you need some information that is stored on a file in your account back at your home institution. You can log on remotely, telnet to your account, get into your files that are on that server, and retrieve the information. For example, let's say you are at ACTFL and you are supposed to meet some people but you forgot the time and the place. They sent you this information in an e-mail message, and you have that message in your account on the server at your institution. If you can use a computer with Internet access where you are, you can telnet to your account, call up the message, and read the information off the screen. Question 3:

(a) What is Konigsberg Bridge problem? Explain with a suitable diagram Hint: The Konigsberg Bridge Problem is a historical problem in mathematics. The problem was to find a route to walk throgh the city of Konigsberg that would cross each bridge ONLY ONCE. You

could not walk half way onto a bridge, but had to cross it completely, and islands within the city could only be reached by crossing a bridge



First, Euler pointed out that the choice of route inside each land mass is irrelevant. The only important feature of a route is the sequence of bridges crossed. This allowed him to reformulate the problem in abstract terms (laying the foundations of graph theory), eliminating all features except the list of land masses and the bridges connecting them. In modern terms, one replaces each land mass with an abstract "vertex" or node, and each bridge with an abstract connection, an "edge ", which only serves to record which pair of vertices (land masses) is connected by that bridge. The resulting mathematical structure is called a graph.

(b) Prove sum of n terms is n(n+1)/2 by using Gauss trick method.

**Hint**: Gauss solved the problem by observing that when the sum is arranged as below: , 1 + 2 + 3 + 4 + 5 + ... + 96 + 97 + 98 + 99 + 100 and the first term paired with the last: 1 + 100 = 101 the second with the second from the last: 2 + 99 = 101 the third with the third from the last: 3 + 98 = 101 each pair adds to 101. There are fifty such pairs. The sum of numbers from 1 through 100 must therefore be 5050! Using Gauss' trick we can write: Sn = 1 + 2 + 3 + .... + (n - 2) + (n - 1) + n Sn = n + (n - 1)

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+ (n - 2) + ..... + 3 + 2 + 1 2Sn = (n + 1) + (n + 1) + (n + 1) + (n + 1) = n (n + 1) Thus Sn = n(n + 1)/2, and Rn = 1 + n (n + 1)/2.

#### **Question 4:**

- (a) What is a dialog box? Explain with example how to create dialog boxes in Ms-Excel
- (b) Hint: In a graphical user interface of computers, a dialog box (or dialogue box) is a type of window used to enable reciprocal communication or "dialog" between a computer and its user. It may communicate information to the user, prompt the user for a response, or both. A dialog box is most often used to provide the user with the means for specifying how to implement a command, or to respond to a question or an "alert" (see below).
- □ Open a new Excel worksheet and switch over to the Visual Basic editing tab[ALT+F11].

□ Make a new function using the "Sub" routine and name it whatever is appropriate to your dialog box. Type in the "MsgBox" command to create a new pop up box.

 $\Box$  Use quotes around the parameters of the message box to write out the message that will be displayed.

 $\hfill\square$  The syntax should be used as MsgBox "This is the message."

□ Use the "Case vbYes" and "Case vbNo" commands to give your dialog box functionality so that the user can select multiple options

(b) Explain with example how to create database in Ms-excel.

Hint: Well first off, there is one rule we must always follow and that is one excel database per worksheet. Anymore and you just get yourself into lots of trouble. In fact if you need to have multiple excel databases within your workbook simply put each excel database onto a separate worksheet. The next thing you must follow is that your database lists first row must contain the heading of the list. That is the first row contains your field names. Plus each of the field names must be 100% unique. You cannot have two field names with the same name or again you will have a list that will not work. The next issue you need to be concerned with is identifying the field names. Excel databases have a simple rule, the field names or column names must be unique. Now the way you identify them is easy, all you have to do is to ensure the field names are many different data types, format, pattern etc to the rest of the database in your list. Generally what I do is to format my field names in bold to satisfy this requirement. One of the most important rules you must remember when you create an excel database is that around the row and columns of the fields and data there must be a blank row and column. What this means is that you can still have a heading at the top of the fields, but there must be a blank row between the heading and the fields as well as along the last column as well. The blank row rule also applies to the bottom of the list as well. When you are entering data into your list, every cell in every record must contain some value even if it is simply blank (a blank value is still considered a value) and each record must contain the same number of fields. If there is no specific data for a field you simply leave it blank and move to the next field. Ensure that when you are entering data into a field that you don't have spaces before the text or at the end of the text in the field. If you do have spaces, then what will happen is that sorting and Search for data in the list will be compromised and you will get unexpected results. Upper case and low case characters in the field do not affect the searches or sort orders unless you specifically tell the Microsoft Excel application it is an issue. You can also use formulas in a cell if required. Formulas can refer to cells within the Excel Database List or outside of the Excel Database. Note also that you can edit and format the cells just like any other spreadsheet however the issue. You must consider as a priority is that the field names must have a different format to the rest of the Data in

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the database list. It is highly recommended that there be no other formatting in the list Except for the field headings. This ensures that there are no miscalculations by the application as to what is a field heading in the excel database and what is not. Now that you have setup your list in this way following these rules, you are now ready to interrogate the list by applying criteria. The easiest way that you can do this is by using the Form dialog box. To get into the Excel Database form you simply choose the Data menu and then choose Form from the drop down menu. From the Excel Database Form you can simply choose the Criteria button, type the criteria you have for your data and choose the Find Next button and it will take you to the first record that satisfies the criteria you are searching. Excel Databases are particularly useful for summary data that is where the volume of records you have in your database doesn't exceed 65,536 rows.

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