

GUJARAT TECHNOLOGICAL UNIVERSITY

BRIDGE COURSE INFORMATION AND COMMUNICATION TECHNOLOGY B.E. 1st YEAR (w.e.f July 2014)

CONTENTS:

Sr. No.	Subject Content
1.	Hardware elements of the computer system <ul style="list-style-type: none">• RAM• ROM• Motherboard• Processor• Input Devices• Output Devices• Different types of port
2.	Software <ul style="list-style-type: none">• Introduction to different software• Installation of software• Un-installation of Software
3.	Presentation and Report Making <ul style="list-style-type: none">• Word processing Software• Presentation Software
4.	Spreadsheet Software: Sum, Sumif, Count, Countif, if, average, averageif, upper, lower, Hyperlink, SIN, COS, MAX, Date, Roundup, sqrt, time, today
5.	Internet <ul style="list-style-type: none">• Steps to keep your computer secure• Firewall• Virus and Antivirus• Proxy Server
6.	Introduction to Programming Language <ul style="list-style-type: none">• Why Programming Language?• Different Programming Language• Why C?

Bridge Course duration : 04 Weeks

Suggestion:-

In the first hour, teacher will introduce and discuss the topic in detail. Here a naïve approach can be followed : Every students should carry pencil and pen, at the end of each topic every students should show either pen if they understood the topic otherwise pencil. Because many students hesitate to say if they have any doubt. In this technique all the students will give their opinion (understood or not).

In the second hour, teacher will divide students into group and ask each and every group to do some activity and prepare set of questions.

At the last 20 minutes each group will ask questions to the other group.

Time Duration for each Activity with outcomes

Sr. No.	Activity	Time Required	Outcome
1	Identify various hardware elements of the computer system. (eg. RAM, ROM, Motherboard, input device, output device, etc. if possible show the physical hardware instead of diagrams of RAM, motherboard and all the possible device)	2 hours	<ul style="list-style-type: none"> • Naïve user become familiar with computer • learn how to operate the computer • learn the connections between diff. devices
2	Installing and uninstalling software (Explain step by step procedure to install and uninstall any one software or operating system)	2 hours	<ul style="list-style-type: none"> • Learn how to install the software • Learn how to uninstall the software • Understand usage of Software • Learn difference between two software
3	Introduction to basic software like Open Office (here you can make groups and ask them to use all the open office tools and make report(using word), and ppt)	2 hours	<ul style="list-style-type: none"> • Learn how to use word processor • Learn how to create reports , slides using word processor
4	Spreadsheet Software	2 hours	<ul style="list-style-type: none"> • Learn how to use spreadsheet

			<ul style="list-style-type: none"> • Maintain and analyse different data using spreadsheets
5	How to make your computer secure? (eg. by making sure that it is being downloaded from some standard site, making secure payment transactions and other such security tips for working with internet)	2 hours	<ul style="list-style-type: none"> • Learn about e-commerce also they will be introduced to firewalls • Understand the threat for computing world • Finding out different security mechanism for standalone, LAN and also for the internet.
6	Introduction to Programming Languages, Why we need to learn Programming Languages, Which are the different Programming Languages, Why C?	2 hours	<ul style="list-style-type: none"> • They can map the real world problem to programs • They will know that C is a fundamental language and powerful • It is easy to create drivers in C
7	Last week :- Interaction with students if they came up with some new idea or they know about any latest technology. Group presentation and Report Submission	2 hours	Students will present whatever knowledge they gained in Bridge course

Evaluation for the evaluation of Bridge course

Evaluation should be done on continuous-basis as mentioned below:

At the end of each activity students should be evaluated out of 5 marks based on their interest, participation in the class and completion of task assigned to their group.

And at the last week of bridge course, students have to submit a report which should contain whatever knowledge they gained in ICT bridge course and they have to present it in group. This report and presentation should be evaluated out of 20 marks based on the topics covered in the report, presentation skills, slides prepared and team work.

Total Marks = $6 \times 5 + 20 = 50$

Learning Resources :-

Course Material :-

- Presentations, Video and Course planning are provided.

Books:-

- 1) Fundamentals of Computers by V. Rajaraman
- 2) Computer Studies - A first course by John Shelley and Roger Hunt
- 3) Computer Fundamentals, MS Office and Internet & Web Technology by Dinesh Maidasani

Useful sites :-

<http://www.bleepingcomputer.com/tutorials>

<http://cybersecurityforindia.blogspot.in>

<http://ptlb.in/csrdci/wp-content/uploads/2014/01/Cyber-Security-Must-Be-An-International-Issue.pdf>

<http://www.howstuffworks.com/>

Suggested Activities:

Activity -1

Identify various hardware elements of the computer system.

Activity 2

Explain step by step procedure to install any operating system

Activity 3

Introduction to basic software like Office (here you can make groups and ask them to use all the office tools and make report(using word), charts(using excel) and ppt)

Working with word processing softwares.

1.)To Copy Paragraph

- Say you've written a report in Word. You like the look, especially your headings, which are 14 pt. Bookman Old Style, centered, green, and bold, with a nice subtle shadow.

- Fifteen minutes before you're supposed to present the report to the team, your manager asks you to add four new sections to the report. You spend thirteen minutes adding the information, and the next two wishing that you hadn't chosen such complicated formatting for your headings, since you now have to apply it to all the new ones.
- Using Format Painter saves you that time and duplicated effort. Instead of having to manually apply the font, font effects, centered paragraph alignment, and other formatting to each new section heading, you can quickly copy all of the formatting attributes by using one toolbar button.
- To copy formatting
- Do one of the following:
 - To copy both paragraph attributes (such as alignment, indentation, and so on) and character attributes (such as font and font effects), select the text whose formatting you want to copy plus the paragraph mark that follows the text.
 - To copy only character attributes, select the text without selecting the paragraph mark.
- On the **Standard** toolbar, click **Format Painter** . Select the text you want to apply the formatting to.
 - The text takes on the new formatting.
- If you want to apply the same formatting to more than one item, select the formatting you want, double-click **Format Painter**, and then select each word, phrase, or paragraph you want to apply formatting to. When you're finished, press ESC.

2.) To make three column word document

- Select the text you want formatted in columns, or place your cursor where you want columns to begin.
- On the **Page Layout** tab, in the **Page Setup** group, click **Columns**.
- Click **More Columns**.
- Click the number of columns that you want.
- In the **Apply to** list, click **Selected text** or **This point forward**.

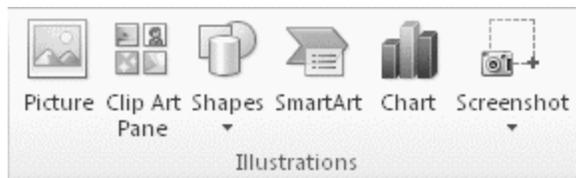
3.) To Set Paragraph Margin

- You can change the spacing between the lines or the spacing before or after each paragraph.
- Select the text you want to change.
- On the **Formatting** toolbar, point to **Line Spacing** , and then do one of the following:
 - To apply a new setting, click the arrow, and then select the number that you want.
 - To apply the most recently used setting, click the button.

- To set more precise measurements, click the arrow, click **More**, and then select the options you want under **Line Spacing**.
- NOTE If you select **Exactly** or **At least** for line spacing, enter the amount of space you want in the **At** box. If you select **Multiple**, enter the number of lines in the **At** box.
- Select the paragraphs in which you want to change spacing.
- On the **Format** menu, click **Paragraph**, and then click the **Indents and Spacing** tab.
- Under **Spacing**, enter the spacing you want in the **Before** or **After** box.

4.) To Insert A Picture In Word Document

- To insert a picture from your scanner or camera, use the software that came with your scanner or camera to transfer the picture to your computer. Save the picture, and then insert it by following these steps.
- Click where you want to insert the picture in your document.
- On the **Insert** tab, in the **Illustrations** group, click **Picture**.



NOTE Some commands shown are not available in Word Starter.

- Locate the picture that you want to insert. For example, you might have a picture file located in **My Documents**.
- Double-click the picture that you want to insert.
- NOTE By default, Microsoft Word embeds pictures in a document. You can reduce the size of a file by linking to a picture. In the **Insert Picture** dialog box, click the arrow next to **Insert**, and then click **Link to File**.
- To resize a picture, select the picture you've inserted in the document. To increase or decrease the size in one or more directions, drag a sizing handle away from or toward the center, while you do one of the following:
 - To keep the center of an object in the same location, press and hold CTRL while you drag the sizing handle.
 - To maintain the object's proportions, press and hold SHIFT while you drag the sizing handle.
 - To both maintain the object's proportions and keep its center in the same location, press and hold both CTRL and SHIFT while you drag the sizing handle.

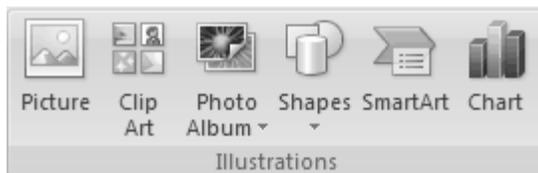
Working with presentation softwares for making good presentation.

1.) Create a hyperlink to a slide in the same presentation

- In Normal view, select the text or the object that you want to use as a hyperlink.
- On the **Insert** tab, in the **Links** group, click **Hyperlink**.
- Under **Link to**, click **Place in This Document**.
- Do one of the following:
 - Link to a custom show in the current presentation:
 - Under **Select a place in this document**, click the custom show that you want to use as the hyperlink destination.
 - Select the **Show and return** check box.
 - Link to a slide in the current presentation:
 - Under **Select a place in this document**, click the slide that you want to use as the hyperlink destination.

2.) Insert clip art

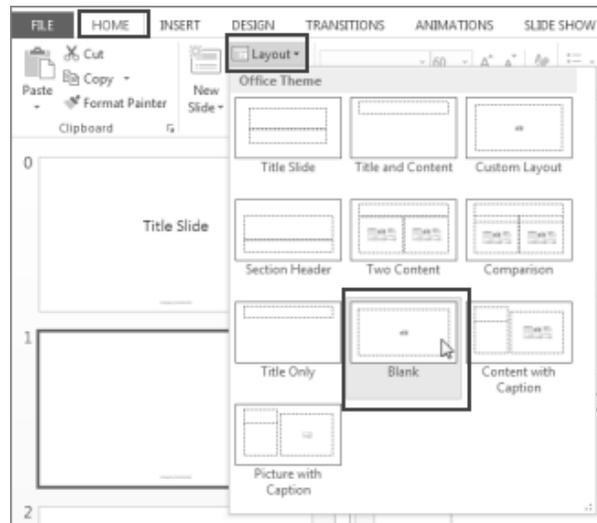
- Do the following for all programs listed in the Applies To at the top of the article.
- On the **Insert** tab, in the **Illustrations** group, click **Clip Art**.



- In the **Clip Art** task pane, in the **Search for** text box, type a word or phrase that describes the clip art that you want, or type all or some of the file name of the clip art.
- To narrow your search, do one or both of the following:
 - To limit the search results to a specific collection of clip art, in the **Search in** list, select the check box next to each collection that you want to search.
For more information about collections, see About Clip Organizer collections.
 - To limit the search results to clip art, in the **Results should be** list, select the **Clip Art** check box. You can also select the check boxes next to **Photographs**, **Movies**, and **Sounds** to search those media types.
- Click **Go**.
- In the list of results, click the clip art to insert it.

3.) Change a slide layout

- If you do not find a standard slide layout that matches your slide content, you can change an existing layout.
- On the **View** tab, click **Slide Master**.
- In the thumbnail pane that contains the slide masters and layouts, locate and click the slide layout that is the closest match to what you want in your layout.
- **TIP** If none of the layouts meet your needs, select the **Blank Layout** and start anew by adding placeholders to contain text, pictures, videos, etc.
- To change an existing layout, do one or more of the following:
 - To add a placeholder, on the **Slide Master** tab, click **Insert Placeholder**, and then select a placeholder type from the list. Click a location on the layout, and then drag to draw the placeholder.
 - Resize, reposition, or delete a placeholder.
 - To rename the layout, in the thumbnail list of layouts, right-click the layout that you customized, and then click **Rename Layout**.
 - In the **Rename Layout** dialog box, type a new name that describes the layout you've just created, and then click **Rename**.
 - On the **Slide Master** tab, click **Close Master View**.
- **To reapply the updates you made to the layout so that they appear on the slides in your presentation, do the following:**
- In **Normal** View, in the thumbnail pane, click the slide that you want to reapply the updated layout to.



NOTE To select multiple slides, press and hold the Ctrl key, and then click each slide.

- On the **Home** tab, in the **Slides** group, click **Layout**, and then select the layout that you updated in Slide Master View.

Activity 4

Working with spreadsheet software and understanding the usage of formulas.

ABS function

Description:

Returns the absolute value of a number. The absolute value of a number is the number without its sign.

Syntax:

ABS(number)

COS function

Description:

Returns the cosine of the given angle.

Syntax:

COS(number)

FACTDOUBLE function

Description:

Returns the double factorial of a number.

Syntax:

FACTDOUBLE(number)

SINH function

Description:

Returns the hyperbolic sine of a number.

Syntax:

SINH(number)

TAN function

Description:

*Returns the tangent of the given angle.****Syntax:*** *TAN(number)*

Activity 5

Create gmail account with id **name.surname-collegename@gmail.com**

Email forwarding using POP3/ IMAP

How to create labels and folders in gmail account.

How to create google sites.

Tell the students about Google scholar.

How to make your computer secure? (eg. by making sure that it is being downloaded from some standard site, making secure payment transactions and other such security tips for working with internet)

1. *Do you need to be connected to the internet all the time?*
2. *Make sure your router has a decent firewall*
3. *Make sure your Computer or Device has a decent firewall*
4. *Install Decent Anti-virus Software*
5. *Keep Your Computer Up to Date!*
6. *Don't Visit Porn Sites (or any other dodgy or affected site)!*
7. *Keep Your Password Safe and Hard to Guess.*
8. *Use a Decent Web Browser*
9. *Don't Trust Public Wifi*
10. *Never Leave Your Computer Unattended*

What you need to know to keep your computer safe on the Internet

Tip 1: Always install Operating System updates

Tip 2: Keep your installed applications up-to-date

Tip 3: Do not use the same password at every site

Tip 4: Install and be sure to update your anti-virus software

Tip 5: Use a firewall

Tip 6: Backup your data!

Tip 7: Enable the display of file extensions

Tip 8: Do not open attachments from people you do not know

Tip 9: Ignore emails that state you won a contest or a stranger asking for assistance with their inheritance

Tip 10: Watch out for online and phone support scams

Tip 11: Ignore web pop ups that state your computer is infected or has a problem

Tip 12: Ignore and close web pop ups that pretend to be a Windows alert

Tip 13: Some types of web sites are more dangerous than others

Tip 14: Be vigilant when using Peer-To-Peer Software

Tip 15: When installing a piece of software, watch out for "bundled" tool bars and programs that you may not want

Tip 16: When installing a piece of software, read the End User License Agreement (EULA) so you know what your getting into

Activity 6

Introduction to Programming Languages, Why we need to learn Programming Languages, Which are the different Programming Languages, Why C?