**Guru Tegh Bahadur Institute of Technology**

**Fundamentals of Computing Lab (ETCS-157)**

**List of Practicals**

1. **Demonstration of PC dismantling and discussion of following parts:**

**Power Supply Unit (PSU), Hard Disc Drive, CD-Rom, CPU Socket, CPU Fan, Mother Board, RAM (Random Access Memory), Central Processing Unit, Video Card, Graphic Card, Internet Card, Cell (Date & Time), Front Panel for Power, Front Panel for USB, System Fan, PATA cable (Parallel Advanced Technology Attachment), SATA cable (Serial Advanced Technology Attachment), BIOS (Basic Input / Output System), CPU Cabinet, Keyboard Port, Mouse Port, USB Port, VGA Port, RJ-45 Connector Point, Audio Points.**

1. **To make invitation letter using features like word art, different fonts and colors.**
2. **To prepare a resume in word using features like table for including qualification, bullets, alignment etc.**
3. **To make a macro in word using keyboard shortcut and name.**
4. **To use the mail merge facility of word to send a letter to 10 different people at the same time.**
5. **To generate envelopes using the mail merge feature of word.**
6. **Prepare an excel sheet -**
7. **Create student data with details like- Roll No, Name, Marks1, Marks2, Marks3, Marks4, Marks5**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Roll No** | **Name** | **Marks1** | **Marks2** | **Marks3** | **Marks4** | **Marks5** |
| **1** | **A** | **10** | **10** | **10** | **40** | **30** |
| **2** | **C** | **30** | **10** | **10** | **40** | **30** |
| **3** | **R** | **20** | **10** | **10** | **40** | **30** |
| **4** | **H** | **10** | **40** | **10** | **40** | **30** |
| **5** | **E** | **50** | **20** | **40** | **40** | **30** |
| **6** | **W** | **60** | **10** | **10** | **100** | **70** |
| **7** | **M** | **30** | **10** | **100** | **40** | **30** |
| **8** | **U** | **90** | **100** | **10** | **40** | **30** |

1. **Calculate the following values using built-in Excel functions:**
2. **Sum**
3. **Maximum**
4. **Minimum**
5. **Average**
6. **Count**
7. **Sum/Average**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Roll No** | **Name** | **Marks1** | **Marks2** | **Marks3** | **Marks4** | **Marks5** | **Sum** | **Avg** | **Count** | **Max** | **Min** | **Sum/ Avg** |
| **1** | **A** | **10** | **10** | **10** | **40** | **30** | **100** | **20** | **5** | **40** | **10** | **5** |
| **2** | **C** | **30** | **10** | **10** | **40** | **30** | **120** | **24** | **5** | **40** | **10** | **5** |
| **3** | **R** | **20** | **10** | **10** | **40** | **30** | **110** | **22** | **5** | **40** | **10** | **5** |
| **4** | **H** | **10** | **40** | **10** | **40** | **30** | **130** | **26** | **5** | **40** | **10** | **5** |
| **5** | **E** | **50** | **20** | **40** | **40** | **30** | **180** | **36** | **5** | **50** | **20** | **5** |
| **6** | **W** | **60** | **10** | **10** | **100** | **70** | **250** | **50** | **5** | **100** | **10** | **5** |
| **7** | **M** | **30** | **10** | **100** | **40** | **30** | **210** | **42** | **5** | **100** | **10** | **5** |
| **8** | **U** | **90** | **100** | **10** | **40** | **30** | **270** | **54** | **5** | **100** | **10** | **5** |

1. **Create 2D Bar chart for the above prepared excel with x-axis as the calculated values of SUM, AVERAGE, COUNT, MAX, MIN & SUM/AVG and Y-axis with the name of the students.**
2. **Perform formatting, alignments, wrap text & Merging.**
3. **Adjust the chart size so that all the data are clearly visible.**
4. **Use All Borders under Home tab to give a tabular form for the inserted data**
5. **Give title of the entered data as STUDENT DATA by using MERGE & CENTER option under HOME tab**
6. **Use the alignments for the entered data, keep uniformity for the entire data either left/right/middle/center/bottom/top alignments.**

|  |
| --- |
| **Student Data** |
| **Roll No** | **Name** | **Marks1** | **Marks2** | **Marks3** | **Marks4** | **Marks5** | **Sum** | **Avg** | **Count** | **Max** | **Min** | **Sum/ Avg** |
| **1** | **A** | **10** | **10** | **10** | **40** | **30** | **100** | **20** | **5** | **40** | **10** | **5** |
| **2** | **C** | **30** | **10** | **10** | **40** | **30** | **120** | **24** | **5** | **40** | **10** | **5** |
| **3** | **R** | **20** | **10** | **10** | **40** | **30** | **110** | **22** | **5** | **40** | **10** | **5** |
| **4** | **H** | **10** | **40** | **10** | **40** | **30** | **130** | **26** | **5** | **40** | **10** | **5** |
| **5** | **E** | **50** | **20** | **40** | **40** | **30** | **180** | **36** | **5** | **50** | **20** | **5** |
| **6** | **W** | **60** | **10** | **10** | **100** | **70** | **250** | **50** | **5** | **100** | **10** | **5** |
| **7** | **M** | **30** | **10** | **100** | **40** | **30** | **210** | **42** | **5** | **100** | **10** | **5** |
| **8** | **U** | **90** | **100** | **10** | **40** | **30** | **270** | **54** | **5** | **100** | **10** | **5** |

1. **Convert the chart type into excel by selecting the chart area and go to the Insert tab. Select the Clustered Column from the Column charts menu.**

 **It should look like this-**

1. **Make a presentation of 6 slides on “Introduction to Computers “**
	1. **Add different slide layout for adding the picture and text.**
	2. **Use clip art to show the title on First slide.**
	3. **Use tables to insert Table Of Content on second slide.**
	4. **Give introduction of computer, details of input and output devices with pictures on rest of the slides.**
2. **Make a presentation of 5 slides on “Storage devices “ and add**
	1. **A different slide layout for each slide.**
	2. **Slide transitions with sound and timings.**
	3. **Action will be performed on the click of mouse.**
3. **Make a presentation of 5 slides on “Operating Systems “ and add**
	1. **Definition , Types and function of operating System.**
	2. **Add animation with duration of 00.25 sec and delay 00.25 sec.**
	3. **Action will be performed on the click of mouse.**
4. **Make a presentation of 5 slides on “Computer system “ and add**
	1. **Advantages and disadvantages of computerizing**
	2. **Advantages and disadvantages of networking computers**
	3. **A different slide layout for each slide.**
	4. **A different slide design for each slide.**
	5. **Action buttons to advance the slides back and forward (no timing) and action button to link first slide to the second slide.**
5. **Make a presentation of 5 slides on “Dos Commands “ and add**
	1. **Rehearse timings to the slides**
	2. **Use custom slide show.**
	3. **Also add Play narration and Timings.**
	4. **At last, show timing for each slide using Record slide show.**
6. **Study of various DOS internal command (MD, CD, RD, COPY CON, REN, COPY, CLS, VOL, DATE, CAL).**
7. **Study of various Dos External Commands (LABEL, FORMAT, TREE, DISK COPY , APPEND ,RESTORE , REPLACE, ATTRIB ,CHKDSK, DEBUG).**
8. **Make a directory of your own name and crate a text file name myfile.txt in the directory.**
9. **Make a directory structure.**

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1. **On the above structure implement the following :**
2. **Move file 5 to directory –PHYSICS**
3. **Remove directory –ECE**
4. **Rename directory CSE to computer science and engineering**
5. **Installation of Linux**
6. **To study the various file management commands (mkdir, pwd, mv, rm, rmdir, wc, cat, cs, cp).**
7. **To study the various system status commands (chmod, chgrp, chown, date, shutdown).**
8. **To study the various miscellaneous commands (man, cal, echo, printf, clear).**
9. **Make a directory structure in Linux as given below:**

**Institute**

**Ist Year**

**IInd Year**

**IIIrd Year**

**IVth Year**

 **Where S1 to S6 are subjects of various years.**

 **(a) Move file S5 to directory Ist year.**

 **(b) Remove directory IVth year.**

 **(c) Rename S3 to S8.**

1. **Draw a flowchart to find the largest of three numbers.**
2. **Draw a flowchart to find the roots of a given quadratic equation. Display your roots.**
3. **a) Draw a flowchart to find the GCD of two numbers, u and v.**

 **b) Draw a flowchart to find the factorial of two numbers.**

1. **Draw a flowchart to add two matrices.**
2. **An item can be purchased at two different rates as given below:-**
3. **If the quantity is less than 100, Rs 10 per item.**
4. **If the quantity is equal to or greater than 100, Rs. 9 per item.**

 **Find the total cost for the quantity, Q. Draw its flowchart.**