

# **KASIREDDY NARAYANREDDY COLLEGE OF ENGINEERING AND RESEARCH**

**ABDULLAPUR (V), ABDULLAPURMET (M), R.R DIST-501505  
(Approved By AICTE,New Delhi & Affiliated to JNTUH,HYDERABAD)**



## **ANALOG AND DIGITAL ELECTRONICS LAB (CS306ES)**

### **LIST OF EXPERIMENTS:**

- 1. Full Wave Rectifier with & without filters**
- 2. Common Emitter Amplifier Characteristics**
- 3. Common Base Amplifier Characteristics**
- 4. Common Source amplifier Characteristics**
- 5. Measurement of h-parameters of transistor in CB, CE, CC configurations**
- 6. Input and Output characteristics of FET in CS configuration**
- 7. Realization of Boolean Expressions using Gates**
- 8. Design and realization logic gates using universal gates**
- 9. generation of clock using NAND / NOR gates**
- 10. Design a 4 – bit Adder / Subtractor**
- 11. Design and realization a Synchronous and Asynchronous counter using flip-flops**
- 12. Realization of logic gates using DTL, TTL, ECL, etc.**

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## **DATA STRUCTURES LAB (CS307PC)**

### **LIST OF EXPERIMENTS:**

- 1. Write a program that uses functions to perform the following operations on singly linked list.:**
  - i) Creation ii) Insertion iii) Deletion iv) Traversal**
  
- 2. Write a program that uses functions to perform the following operations on doubly linked list.:**
  - i) Creation ii) Insertion iii) Deletion iv) Traversal**
- 3. Write a program that uses functions to perform the following operations on circular linked list.:**
  - i) Creation ii) Insertion iii) Deletion iv) Traversal**
  
- 4. Write a program that implement stack (its operations) using**
  - i) Arrays ii) Pointers**
  
- 5. Write a program that implement Queue (its operations) using**
  - i) Arrays ii) Pointers**
  
- 6. Write a program that implements the following sorting methods to sort a given list of integers in ascending order**
  - i) Bubble sort ii) Selection sort iii) Insertion sort**
- 7. Write a program that use both recursive and non recursive functions to perform the following searching operations for a Key value in a given list of integers:**
  - i) Linear search ii) Binary search**
- 8. Write a program to implement the tree traversal methods.**
  
- 9. Write a program to implement the graph traversal methods.**

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## **IT WORKSHOP LAB(CS308PC)**

### **LIST OF EXPERIMENTS:**

#### **PC Hardware**

**Task 1: Identify the peripherals of a computer, components in a CPU and its functions. Draw the block diagram of the CPU along with the configuration of each peripheral and submit to your instructor.**

**Task 2: Every student should disassemble and assemble the PC back to working condition. Lab instructors should verify the work and follow it up with a Viva. Also students need to go through the video which shows the process of assembling a PC. A video would be given as part of the course content.**

**Task 3: Every student should individually install MS windows on the personal computer. Lab instructor should verify the installation and follow it up with a Viva.**

**Task 4: Every student should install Linux on the computer. This computer should have windows installed. The system should be configured as dual boot with both windows and Linux. Lab instructors should verify the installation and follow it up with a Viva**

**Task 5: Hardware Troubleshooting: Students have to be given a PC which does not boot due to improper assembly or defective peripherals. They should identify the problem and fix it to get the computer back to working condition. The work done should be verified by the instructor and followed up with a Viva.**

**Task 6: Software Troubleshooting: Students have to be given a malfunctioning CPU due to system software problems. They should identify the problem and fix it to get the computer back to working condition. The work done should be verified by the instructor and followed up with a Viva.**

## **Internet & World Wide Web**

**Task1: Orientation & Connectivity Boot Camp:** Students should get connected to their Local Area Network and access the Internet. In the process they configure the TCP/IP setting. Finally students should demonstrate, to the instructor, how to access the websites and email. If there is no internet connectivity preparations need to be made by the instructors to simulate the WWW on the LAN.

**Task 2: Web Browsers, Surfing the Web:** Students customize their web browsers with the LAN proxy settings, bookmarks, search toolbars and pop up blockers. Also, plug-ins like Macromedia Flash and JRE for applets should be configured.

**Task 3: Search Engines & Netiquette:** Students should know what search engines are and how to use the search engines. A few topics would be given to the students for which they need to search on Google. This should be demonstrated to the instructors by the student.

**Task 4: Cyber Hygiene:** Students would be exposed to the various threats on the internet and would be asked to configure their computer to be safe on the internet. They need to first install an antivirus software, configure their personal firewall and windows update on their computer. Then they need to customize their browsers to block pop ups, block active x downloads to avoid viruses and/or worms.

## **LaTeX and WORD**

**Task 1 – Word Orientation:** The mentor needs to give an overview of LaTeX and Microsoft (MS) office 2007/ equivalent (FOSS) tool word: Importance of LaTeX and MS office 2007/ equivalent (FOSS) tool Word as word Processors, Details of the four tasks and features that would be covered in each, Using LaTeX and word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter in word.

**Task 2: Using LaTeX and Word to create project certificate.** Features to be covered:-Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in both LaTeX and Word.

**Task 3: Creating project abstract** Features to be covered:-Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.

**Task 4 : Creating a Newsletter :** Features to be covered:- Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes, Paragraphs and Mail Merge in word.

## **Excel**

**Excel Orientation: The mentor needs to tell the importance of MS office 2007/ equivalent (FOSS) tool Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered in each. Using Excel – Accessing, overview of toolbars, saving excel files, Using help and resources.**

**Task 1: Creating a Scheduler - Features to be covered: Gridlines, Format Cells, Summation, auto fill, Formatting Text**

**Task 2 : Calculating GPA - .Features to be covered:- Cell Referencing, Formulae in excel – average, std.deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP**

**Task 3: Performance Analysis - Features to be covered:- Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting .**

### **LaTeX and MS/equivalent (FOSS) tool Power Point**

**Task 1: Students will be working on basic power point utilities and tools which help them create basic power point presentation. Topic covered during this week includes: - PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows in both LaTeX and PowerPoint. Students will be given model power point presentation which needs to be replicated (exactly how it's asked).**

**Task 2: Second week helps students in making their presentations interactive. Topic covered during this week includes: Hyperlinks, Inserting – Images, Clip Art, Audio, Video, Objects, Tables and Charts.**

**Task 3: Concentrating on the in and out of Microsoft power point and presentations in LaTeX. Helps them learn best practices in designing and preparing power point presentation. Topic covered during this week includes: - Master Layouts (slide, template, and notes), Types of views (basic, presentation,slide slotter, notes etc), and Inserting – Background, textures, Design Templates, Hidden slides.**

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**C++ PROGRAMMING LAB (CS309PC)**

## **LIST OF EXPERIMENTS:**

- 1. Write a C++ Program to display Names, Roll No., and grades of 3 students who have appeared in the examination. Declare the class of name, Roll No. and grade. Create an array of class objects. Read and display the contents of the array.**
- 2. Write a C++ program to declare Struct. Initialize and display contents of member variables.**
- 3. Write a C++ program to declare a class. Declare pointer to class. Initialize and display the contents of the class member.**
- 4. Given that an EMPLOYEE class contains following members: data members: Employee number, Employee name, Basic, DA, IT, Net Salary and print data members.**
- 5. Write a C++ program to read the data of N employee and compute Net salary of each employee (DA=52% of Basic and Income Tax (IT) =30% of the gross salary).**
- 6. Write a C++ to illustrate the concepts of console I/O operations.**
- 7. Write a C++ program to use scope resolution operator. Display the various values of the same variables declared at different scope levels.**
- 8. Write a C++ program to allocate memory using new operator.**
- 9. Write a C++ program to create multilevel inheritance. (Hint: Classes A1, A2, A3)**
- 10. Write a C++ program to create an array of pointers. Invoke functions using array objects.**
- 11. Write a C++ program to use pointer for both base and derived classes and call the member function. Use Virtual keyword.**