

Department of Computer Science & Engineering

Mobile App Development Lab

Major Equipments available in the Lab

S. No.	Hardware	Specification	Quantity
1	Desktops	Core i3 Processor, 2GB RAM, 500 GB HDD	30 Nos.
Software			
2	C, C++, JDK1.8, GnuPG, Snort, N-Stalker		

Courses Offered

S.No.	ODD Semester	Class	No. of Sessions	EVEN Semester	Class	No. of Sessions
1	Fundamentals of Data Structures in C Laboratory	III Sem ECE	4	Mobile Application Development Laboratory	VI Sem CSE	4
2	Object Oriented Programming Laboratory	V Sem EEE	4			
Percentage of Lab Utilization : 80%				Percentage of Lab Utilization : 40%		

Department of Computer Science & Engineering
Mobile App Development Lab

CS 8383 OBJECT ORIENTED PROGRAMMING V Sem EEE
LABORATORY

Objectives:

- To build software development skills using java programming for real-world applications.
- To understand and apply the concepts of classes, packages, interfaces, arraylist, exception handling and file processing.
- To develop applications using generic programming and event handling.

Outcomes:

- Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.
- Develop and implement Java programs with arraylist, exception handling and multithreading.
- Design applications using file processing, generic programming and event handling.

List of Experiments

01. Develop a Java application to generate Electricity bill. Create a class with the following members: Consumer no., consumer name, previous month reading, current month reading, type of EB connection (i.e domestic or commercial). Compute the bill amount using the following tariff. If the type of the EB connection is domestic, calculate the amount to be paid as follows:
 - First 100 units - Rs. 1 per unit
 - 101-200 units - Rs. 2.50 per unit
 - 201 -500 units - Rs. 4 per unit
 - 501 units - Rs. 6 per unitIf the type of the EB connection is commercial, calculate the amount to be paid as follows:
 - First 100 units - Rs. 2 per unit
 - 101-200 units - Rs. 4.50 per unit
 - 201 -500 units - Rs. 6 per unit
 - 501 units - Rs. 7 per unit.
2. Develop a java application to implement currency converter (Dollar to INR, EURO to INR, Yen to INR and vice versa), distance converter (meter to KM, miles to KM and vice versa) , time converter (hours to minutes, seconds and vice versa) using packages.

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**CS 8662 MOBILE APPLICATION DEVELOPMENT III Sem ECE
LABORATORY**

Objectives:

- To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles.
- To understand how to work with various mobile application development frameworks.
- To learn the basic and important design concepts and issues of development of mobile applications.
- To understand the capabilities and limitations of mobile devices.

Outcomes:

- Develop mobile applications using GUI and Layouts.
- Develop mobile applications using Event Listener.
- Develop mobile applications using Databases.
- Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
- Analyze and discover own mobile app for simple needs.

List of Experiments

01. Develop an application that uses GUI components, font and colours
02. Develop an application that uses layout managers and event listeners.
03. Write an application that draws basic graphical primitives on the screen.
04. Develop an application that makes use of databases.
05. Develop an application that makes use of notification manager
06. Implement an application that uses multi-threading
07. Develop a native application that uses GPS location information
08. Implement an application that writes data to the SD card.
09. Implement an application that creates an alert upon receiving a message.
10. Write a mobile application that makes use of RSS feed.
11. Develop a mobile application to send an email.
12. Develop a Mobile application for simple needs (Mini Project) .

**CS 8381 FUNDAMENTALS OF DATA STRUCTURES III Sem ECE
IN C LABORATORY**

Objectives:

- To understand and implement basic data structures using C.
- To apply linear and non-linear data structures in problem solving.
- To learn to implement functions and recursive functions by means of data structures.
- To implement searching and sorting algorithms.

Outcomes:

- Write basic and advanced programs in C.
- Implement functions and recursive functions in C.
- Implement data structures using C.
- Choose appropriate sorting algorithm for an application and implement it in a modularized way.

List of Experiments

01. Basic C Programs – looping, data manipulations, arrays.
02. Programs using strings – string function implementation.
03. Programs using structures and pointers.
04. Programs involving dynamic memory allocations.
05. Array implementation of stacks and queues.
06. Linked list implementation of stacks and queues.
07. Application of stacks and queues.
08. Implementation of trees, tree traversals.
09. Implementation of binary search trees.
10. Implementation of linear search and binary search.
11. Implementation insertion sort, bubble sort, quick sort and merge sort.
12. Implementation hash functions, collision resolution technique.

CS 8383

OBJECT ORIENTED PROGRAMMING
LABORATORY

V Sem EEE

List of Experiments

03. Develop a java application with Employee class with Emp_name, Emp_id, Address, Mail_id, Mobile_no as members. Inherit the classes, Programmer, Assistant Professor, Associate Professor and Professor from employee class. Add Basic Pay (BP) as the member of all the inherited classes with 97% of BP as DA, 10 % of BP as HRA, 12% of BP as PF, 0. 1% of BP for staff club fund. Generate pay slips for the employees with their gross and net salary.
04. Design a Java interface for ADT Stack. Implement this interface using array. Provide necessary exception handling in both the implementations.
05. Write a program to perform string operations using ArrayList. Write functions for the following a. Append - add at end b. Insert – add at particular index c. Search d. List all string starts with given letter.
06. Write a Java Program to create an abstract class named Shape that contains two integers and an empty method named print Area(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.
07. Write a Java program to implement user defined exception handling.
08. Write a Java program that reads a file name from the user, displays information about whether the file exists, whether the file is readable, or writable, the type of file and the length of the file in bytes.
09. Write a java program that implements a multi-threaded application that has three threads. First thread generates a random integer every 1 second and if the value is even, second thread computes the square of the number and prints. If the value is odd, the third thread will print the value of cube of the number.
10. Write a java program to find the maximum value from the given type of elements using a generic function.
11. Design a calculator using event-driven programming paradigm of Java with the following options.
 - a) Decimal manipulations
 - b) Scientific manipulations
12. Develop a mini project for any application using Java concepts.