IV Year-I Semester		**T**	**P**	**C**
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MOBILE APPLICATION DEVELOPMENT LAB ((RT4112M)

Prerequisite Course:

Advanced Java Lab

Course Description and Objectives:

- To introduce the characteristics, basic concepts and systems issues in mobile and pervasive computing
- To illustrate architecture and protocols in pervasive computing and to identify the trends and latest development of the technologies in the area
- To give practical experience in the area through the design and execution of a modest
- To design successful mobile and pervasive computing applications and services research project
- To evaluate critical design tradeoffs associated with different mobile technologies, architectures, interfaces and business models and how they impact the usability, security, privacy and commercial viability of mobile and pervasive computing services and applications
- To discover the characteristics of pervasive computing applications including the major

Course Outcomes:

Upon completion of the course, the student will be able to achieve the following outcomes.

Cos	Course Outcomes	POs
1	Develop a simple J2ME application with some font and color changes.	6
2	Develop a simple J2ME application with some menu options on the menu bar.	6
3	Develop a simple J2ME application to display a Graph on mobile screen and also test whether the given phone number format is valid or not.	7
4	Develop a J2ME application that connects HTTP Server from J2ME Program	9
5	Develop a sample Android mobile app using Android & Eclipse software.	10
6	Develop a small Android app that interacts with the user which contains some layouts.	10

Syllabus:

1. Write a J2ME program to show how to change the font size and colour.

2. Write a J2ME program which creates the following kind of menu.
   - cut
   - copy
   - past
   - delete
   - select all
   - unselect all

3. Create a J2ME menu which has the following options (Event Handling):
   - cut - can be on/off
   - copy - can be on/off

- paste - can be on/off
- delete - can be on/off
- select all - put all 4 options on
- unselect all - put all

4. Create a MIDP application, which draws a bar graph to the display. Data values can be given at int[] array. You can enter four data (integer) values to the input text field.

5. Create an MIDP application which examines, that a phone number, which a user has entered is in the given format (Input checking):

- Area code should be one of the following: 040, 041, 050, 0400, 044
- There should 6-8 numbers in telephone number (+ area code)

6. Write a sample program to show how to make a SOCKET Connection from J2ME phone. This J2ME sample program shows how to how to make a SOCKET Connection from a J2ME Phone. Many a times there is a need to connect backend HTTP server from the J2ME application. Show how to make a SOCKET connection from the phone to port 80.

7. Login to HTTP Server from a J2ME Program. This J2ME sample program shows how to display a simple LOGIN SCREEN on the J2ME phone and how to authenticate to a HTTP server. Many J2ME applications for security reasons require the authentication of the user. This free J2ME sample program, shows how a J2ME application can do authentication to the backend server. Note: Use Apache Tomcat Server as Web Server and MySQL as Database Server.

8. The following should be carried out with respect to the given set of application domains: (Assume that the Server is connected to the well-maintained database of the given domain. Mobile Client is to be connected to the Server and fetch the required data value/information)
- Students Marks Enquiry
- Town/City Movie Enquiry
- Railway/Road/Air (For example PNR) Enquiry/Status
- Sports (say, Cricket) Update
- Town/City Weather Update
- Public Exams (say Intermediate or SSC)/ Entrance (Say EAMCET) Results Enquiry

Divide Student into Batches and suggest them to design database according to their domains and render information according the requests.

9. Write an Android application program that displays Hello World using Terminal.

10. Write an Android application program that displays Hello World using Eclipse.

11. Write an Android application program that accepts a name from the user and displays the hello name to the user in response as output using Eclipse.

12. Write an Android application program that demonstrates the following:
- LinearLayout
- RelativeLayout
- TableLayout
- GridView layout

13. Write an Android application program that converts the temperature in Celsius to Fahrenheit.

14. Write an Android application program that demonstrates intent in mobile application development