Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)
BCA 606 Lab on Android Application Development
W.E.F. 2024-25
[Total Marks: External 60 + Internal 40 =100 Marks]

Semester	VI	CIE Marks :	40
Course Code	BCA 606	SEE Marks :	60
Contact Hours (L.T.P)	**0:0:4**	Exam Hours :	03

Course Outcomes –

At the end of the course, student will be able to:

- Creating robust mobile applications and learn how to integrate them with other services.
- Creating intuitive, reliable mobile apps using the android services and components.
- Create a seamless user interface that works with different mobile screens.

1. Installation and setup of java development kit (JDK), setup android SDK, setup eclipse IDE, setup android development tools (ADT) plugins, create android virtual device.

2. Create “Hello World” application. That will display “Hello World” in the middle of the screen using TextView Widget in the red color.

3. Create Registration page to demonstration of Basic widgets available in android.

4. Create sample application with login module.(Check username and password) On successful login, Change TextView “Login Successful”. And on failing login, alert user using Toast “Login fail”.

5. Create an application for demonstration of Scroll view in android.

6. Create login application where you will have to validate username and passwords till the username and password is not validated, login button should remain disabled.

7. Create an application for calculator.

8. Demonstrate use of scroll view.

9. Demonstrate use of intent in android.

10. Create application to demonstrate menu option.

11. Create application to demonstrate progress bar.

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon
Faculty of Science and Technology
BACHELOR OF COMPUTER APPLICATIONS (BCA)
BCA 607(A) Lab on Web Development Technology IV
(React Js and Node JS)
W.E.F. 2024-25
[Total Marks: External 60 + Internal 40 =100 Marks]

Semester	**VI**	CIE Marks :	**40**
Course Code	**BCA 607(A)**	SEE Marks :	**60**
Contact Hours (L.T.P)	**0:0:4**	Exam Hours :	**03**

Course Outcomes –

At the end of the course, student will be able to:

- Build a component-based application using React JS and Node JS components and enhance their functionality using directives.
- Design UI using React JS
- Understand server-side development using Node JS, focusing on the development of understanding Node JS architectures.
- Understand client-side and server-side applications and showcase effective ways of handling errors and validating inputs.

Assignments

1. Write ReactJs code to use all the states in in the created Application.
2. Write ReactJs code for Client-side form validation.
3. Write ReactJs code for Applying form components.
4. Write ReactJs code to create student Registration Form.
5. Write ReactJs code to create Simple Login Form.
6. Write ReactJsCreate a Single Page Application.
7. Write ReactJs / NodeJs code to Applying Routing.
8. Write ReactJs / NodeJs code to demonstrate the use of POST Method.
9. Write ReactJs/ NodeJs code to demonstrate the use of GET Method.
10. To demonstrate REST API in Node JS
11. Create Node JS Application for to stored student information in database.
12. Create Node JS Application for login credentials.
13. Create Node JS Application to display student information.
14. Create Node JS Application to update, display and delete student information.

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North Maharashtra University, Jalgaon
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BACHELOR OF COMPUTER APPLICATIONS (BCA)
BCA 605 –Project
[Total Marks: External60 + Internal40 =100 Marks]

Semester	**VI**	CIE Marks :	**40**
Course Code	**BCA 605**	SEE Marks :	**60**
Contact Hours (L.T.P)	**0:0:4**	Exam Hours :	**03**

Outcome : –

- Students are able to apply their theoretical knowledge to practical problems and will be able to develop hands on experience in software development.
- Understand how to apply the programming knowledge for a real world problem.
- Implement the knowledge about Software Requirements Specification (SRS).

PROJECT WORK

- Each Student shall have to carry out the project work based on selected Elective Domain (Web Technology/ Data Analytics /AI, ML) or other technology as per curriculum.
- The project work should be carried out individually. No group work is allowed in the Project work. The project title should not be repeated.
- The topic of the project should be decided with the consultation & guidance of an internal guide teacher of the institute / college.
- The project should be necessarily innovative and problem solving.
- The application should be menu driven and should provide the facilities of storage of data, modifications in existing data, deletion of unwanted data, and viewing of data.
- The student should complete the project based on the actual requirement of any selected enterprise/ organization or sub system and get it certified by the concerned project guide; that the Project report has been satisfactorily completed.
- In the project Report, student should clearly mention –SRS, Need of project, DFD, Normalization, ERD, database(s) / CSV files required for the project, software / technology used for the project, reasons for selection of that software / technology, inputs & Outputs design.
- Prepare **3 copies** of Project Report (1 copy for student, One for Institute / College & One for University).
  Submit **TWO** copies to the Head / Director of the institute / Principal of the college. One copy of the report shall be forwarded to the University by the Institute.
- No student will be permitted to appear for Viva-Voce examinations, unless and until the project report is submitted within the stipulated time.

Guidelines for the Project Guide:

- The project guides ensure that the project title should not be repeated.
- A project guide at a time shall be guiding a maximum of 15 students.
- Project Guide should regularly monitor students' progress throughout the project to ensure they are on track to meet deadlines. Guide the students for the overall project development.

Project Development Phases

Phase -1	**10 Hrs.**
Project Selection	
Students may be given the option to choose a project topic within the scope of their curriculum or be assigned specific topics decided by their project guide.	
The project topic should be relevant to their field of study and align with the learning objectives of the course.	
Planning and Scheduling	
Students create a project plan and schedule detailing the task, and deadlines for each phase of the project	
They identify the resources required for the project, including software, hardware, data, and any other materials.	

Phase -2	**10 Hrs.**
Requirements Gathering	
Students identify and document the functional and non-functional requirements of their project.	
They may conduct interviews, surveys, or research to gather information from potential users	
Design	
Based on the requirements gathered, students design the architecture, user interface, database schema, algorithms, or any other components of their project	
They create blue Print or diagrams to visualize the design and seek feedback from project guide	

Phase -3	**30 Hrs.**
Implementation	
Students begin coding or developing their project according to the design specifications.	
They follow best practices for coding standards, version control, and documentation throughout the implementation phase.	
Testing	
Students conduct testing to ensure that their project meets the specified requirements and functions as intended.	
They perform unit testing, integration testing, and system testing to identify and fix any defects or issues.	

Phase -4	**10 Hrs.**
Documentation	
Guide students in creating user manuals or guides to help to users understand how to use their projects.	
Assist students in making a project report summarizing their methodologies, diagrams, and conclusions.	