Gyanmanjari Innovative University

Course Syllabus
Gyanmanjari College of Computer Application
Semester-6(BCA)

Subject: Applied Software Development - BCAXX16334

Type of Course: Major (Core)

Prerequisite: Software Development process knowledge with involves Designing, Developing, and testing technologies to Solve Real-world problems.

Rationale:

The purpose of this course is to provide BCA Semester–6 students with an opportunity to apply the knowledge and skills acquired throughout the programmed to a practical, real-world problem. This course emphasizes experiential learning by engaging students in the complete software development life cycle, including problem identification, requirement analysis, system design, implementation, testing, and documentation.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				SEE		CCE			
CI	T	P	C	Theory	Practical	MSE	LWA	ALA	
0	0	4	2	00	80	00	20	00	100

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; LWA - Lab Work Assessment; V – Viva voce; CCE- Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.

GUIDELINE

- Project topic should be finalized **at the beginning of Semester 6** and approved by the internal guide.
- The project may be **individual or in a team of maximum 2 students**.
- Project planning and task division must be completed **within 10–15 days** from commencement.
- Coding must follow **basic coding standards**: meaningful variable names, modular structure, and proper comments.
- Use of **object-oriented concepts** is recommended wherever applicable.
- Database design is **mandatory** for application-based projects.
- Students must be prepared to **explain and modify their code during evaluation**.
- Internal guide will monitor project progress as per the timetable.

Accomplishments of the student after completing the course:

After completing the course, the student will be able to:

- Analyze real-world problems and propose feasible software solutions.
- Design basic system models and database structures.
- Develop working software applications using appropriate technologies.
- Apply testing and debugging techniques.
- Prepare structured technical documentation.
- Demonstrate teamwork, time management, and communication skills.

Documentation:

- Project Report should be **minimum 35–40 pages**
- Single-side printing, **Times New Roman**, Font Size **11**, 1.15 line spacing
- Report must include screenshots, database schema, and key code snippets

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1. Introduction
    1.1 Existing System
    1.2 Problem Statement
    1.3 Objectives of the Project
    1.4 Scope of the Project

2. Requirement Determination & Analysis
    2.1 Functional Requirements
    2.2 Non-Functional Requirements

3. System Design
    3.1 Use Case Diagram
    3.2 Class Diagram
    3.3 Database Design / ER Diagram

4. Implementation
    4.1 Tools & Technologies Used
    4.2 Coding Standards
    4.3 Screenshots of Application

5. Testing
    5.1 Test Cases
    5.2 Test Results

6. Conclusion and Future Enhancements

7. Bibliography

Evaluation Parameter

Evaluation Parameters (100 Marks):

Internal Evaluation – 20 Marks

- Project Proposal & Planning – 05 Marks
- Progress Review & Implementation – 05 Marks
- Documentation Quality – 05 Marks
- Attendance & Participation – 05 Marks

External Evaluation – 80 Marks

- Project Demonstration – 20 Marks
- Code Understanding & Modification – 30 Marks
- Viva-Voce – 30 Marks