Course: BTech

Semester: 3

Prerequisite:

Basic knowledge of software applications

Rationale:

This course provides a broad introduction to software engineering. The various process models required to develop software is also being described. Moreover the functional and non-functional requirements are also described.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					
					Internal Marks			External Marks		
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	T	CE	P	T	P	Total
0	0	2	0	1	-	-	20	-	30	50

SEE - Semester End Examination, **CIA** - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.

List of Practical

1. write a program to display Hello World message in console window.

2. a. Write a program to perform arithmetic operations on three numbers.

b. Write a program to find largest among three numbers using ternary operator.

3 a. Write a Program to design a simple calculator using switch case statement. (using java.util.Scanner)

b. Write Program to print all prime numbers between 1 to n using for Loop.

4. a. Write a program to implement linear sort (ascending order) in 1 D array .

b. Write a Java program to multiply two given matrices.

5. a. The Fibonacci sequence is defined by the following rule. The first 2 values in the sequence are 1, 1. Every subsequent value is the sum of the 2 values preceding it. Write a Java program that uses both recursive and non- recursive functions to print the nth value of the Fibonacci sequence?

b. Write a java program for Method overloading to calculate the area using 1,2 and 3 parameter.

c. Write a java program to represent Abstract class with example.

6. a. Write a program to implement multiple Inheritances.

b. write program to demonstrate method overriding and super keyword.

c. Write a program to implement final keyword with inheritance.

7. a. Write a Java Program to demonstrate the following String Handlings. i. String Length & Concatenation. ii. Character Extraction. iii. String Comparison. iv. Palindrome.

b. Write a java program to implement Interface using extends keyword.

c. Write a java program to create user defined package.

8. a. Write a java program for creating single try block with multiple catch blocks.

b. write a program for multiple try blocks and multiple catch blocks including finally.

c. write a program to create user defined exception.

9. Write a java program for producer and consumer problem using Threads.

10. write a program to create dynamic array using ArrayList class and the print the contents of the array object.

Write programs to implement add and remove operation on ArrayList object.

Miscellaneous

Exam Requirement

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Course Outcome

After Learning the Course the students shall be able to:

1. Implement Java code to solve problems using control statements, arrays, inheritance, and strings.
2. Apply the concept of Exception handling, interfaces and packages to real-world scenarios.
3. Develop object-oriented programs using collections framework concepts and functional programming principles.
4. Apply the principles of synchronization using multi-threading.