SECOND-YEAR OF BACHELOR OF COMPUTER SCIENCE MAJOR REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: CORE JAVA

SEMESTER-III, W.E.F. 2024-2025

Recommended by the Board of Studies in Computer Science
And
Approved by the Academic Council

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: _____

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Computer Science
Name of the Class	:	Second Year
Semester	:	Three
No. of Credits	:	02
Title of the Course	:	Core Java
Course Code	:	S301CST
Name of the Vertical in adherence to NEP 2020	:	Major and Minor
Eligibility for Admission	:	Any 12^{th} Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for TE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2024-2025
Ordinances /Regulations (if any)		

Syllabus for Second Year of Bachelor of Science in Computer Science

(With effect from the academic year 2024-2025)

SEMESTER-III **Paper No.– 1**

Course Title: Core Java **No. of Credits - 02**

Type of Vertical: Major and Minor **COURSE CODE: S301CST**

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Understand	Object oriented programming concepts using Java.
CLO-02	Remember	Knowledge of input, its processing and getting suitable output
CLO-03	Analyze	Understand, design, implement and evaluate classes and applets.
CLO-04	Evaluate	Knowledge and implementation of AWT package.

Syllabus for Second Year of Bachelor of Science in Computer Science

(With effect from the academic year 2024-2025)

SEMESTER-III **Paper No.– 1**

Course Title: Core Java **No. of Credits - 02**

Type of Vertical: Major and Minor **COURSE CODE: S301CST**

COURSE CONTENT			
Module No.	**Content**	**Credits**	**No. of Lectures**
1	OOPS: Introduction, Class, Object, Static Keywords, Constructors, this Key Word, Inheritance, super Key Word, Polymorphism (overloading and overriding), Abstraction, Encapsulation, Abstract Classes, Interfaces String Manipulations: String, String Buffer, String Tokenizer Packages: Introduction to predefined packages (java.lang, java.util, java.io, java.sql, java.swing), User Defined Packages, Access specifiers Exception Handling: Introduction, Pre-Defined Exceptions, Try-Catch-Finally, Throws, throw, User Defined Exception examples Multithreading: Thread Creations, Thread Life Cycle, Life Cycle Methods, Synchronization, Wait() notify() notify all() methods.	01	15
2	I/O Streams: Introduction, Byte-oriented streams, Characteroriented streams, File, Random access File, Serialization Networking: Introduction, Socket, Server socket, Client – Server Communication Collection Framework: Introduction, util Package interfaces, List, Set, Map, List interface & its classes, Set interface & its classes, Map interface & its classes. Inner Classes: Introduction, Member inner class, Static inner class, Local inner class, Anonymous inner class AWT: Introduction, Components, Event-Delegation-Model, Listeners, Layouts, Individual components Label, Button, CheckBox, Radio Button, Choice, List, Menu, Text Field, Text Area.	01	15

	Total	02	30

Required Previous Knowledge

Students should know basic concepts related to computer and computer handling

Access to the Course

The course is available for all the students admitted for Bachelor of Science (Computer Science).

Forms of Assessment

The assessment of the course will be of Diagnostic, Formative and Summative type. At the beginning of the course diagnostic assessment will be carried out. The formative assessment will be used for the Continuous Internal Evaluation whereas the summative assessment will be conducted at the end of the term. The weightage for formative and summative assessment will be 60:40. The detailed pattern is as given below.

Semester End Evaluation (60 Marks)
Question Paper Pattern
Time: 2 hours

Question No.	Unit/s	Question Pattern	Marks
Q.1	I & II	MCQ/Fill in the blanks/One line sentence	20
Q.2	I	Descriptive Questions	20
Q.3	II	Descriptive Questions	20
	Total		**60(converted to 30)**

Internal evaluation (20 Marks)

Sr. No.	Description	Marks
1	Classroom Tests	10
2	Project/ Viva/ Presentations/ Assignments	05
3	Attendance	05
	Total	**20**

Grading Scale

10 points grading scale will be used. The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

Reference book:

- Herbert Schildt, Java The Complete Reference, Ninth Edition, McGraw-Hill Education, 2014

Text book:

- Techmax publication book

Additional References:

- E. Balagurusamy, Programming with Java, Tata McGraw-Hill Education India, 2014
- Programming in JAVA, 2nd Ed, Sachin Malhotra & Saurabh Choudhary, Oxford Press
- The Java Tutorials: http://docs.oracle.com/javase/tutorial/