



**Pragya education trust's
Pragya college of management & computer studies,
Handewadi, Pune-411060**

BBA (CA) -- Semester: V

Teaching Plan 2021-2022

Name of Faculty: prof.shilpa thakur
Subject: Cyber Security (SUBJECT CODE-501)

Sr.No.	Month	Week	Topic
1	OCT	2	Chapter 1: Introduction to Cyber Crime and Cyber Security 1.1 Introduction 1.2 Cybercrime: Definition and Origin of the Word 1.3 Cybercrime and Information Security 1.4 Who are Cybercriminals? 1.5 Classifications of Cybercrimes: E-Mail Spoofing, Spamming, Cyber defamation, Internet Time Theft, Salami Attack/Salami Technique, Data Diddling, Forgery, Web Jacking, Newsgroup, Spam/Crimes Emanating from Usenet Newsgroup, Industrial Spying/Industrial Espionage LAB WORK
		3	Hacking, Online Frauds, Computer Sabotage, Email Bombing/Mail Bombs, Computer Network Intrusions, Password Sniffing, Credit Card Frauds, Identity Theft 1.6 Definition of Cyber Security 1.7 Vulnerability, Threats and Harmful acts 1.8 CIA Triad 1.9 Cyber Security Policy and Domains of Cyber Security Policy
		4	Chapter 2: - Cyber offenses and Cyberstalking 2.1 Criminals Plan: Categories of Cybercrime Cyber Attacks: Reconnaissance, Passive Attack, Active Attacks, Scanning/Scrutinizing gathered Information, Attack (Gaining and Maintaining the System Access), Social Engineering, and Classification of Social Engineering. 2.2 Cyberstalking: Types of Stalkers, Cases Reported on Cyberstalking, Working of Stalking 2.3 Real-Life Incident of Cyber stalking 2.4 Cybercafe and Cybercrimes LAB WORK
2	NOV	1	DIWALI VACATION
		2	2.5 Botnets: The Fuel for Cybercrime, Botnet, Attack Vector 2.6 Cybercrime: Mobile and Wireless Devices - Proliferation - Trends in Mobility 2.7 Credit Card Frauds in Mobile and Wireless Computing Era 2.8 Security Challenges Posed by Mobile Devices 2.9 Authentication Service Security 2.10 Attacks on Mobile/Cell Phones
		3	Chapter 3: Tools and Methods Used in Cybercrime 3.1 Introduction 3.2 Proxy Servers and Anonymizers 3.3 Phishing 3.4 Password Cracking 3.5 Keyloggers and Spywares 3.6 Virus and Worms 3.7 Trojan Horses and Backdoors 3.8 Steganography 3.9 DoS and DDoS Attacks 3.10 SQL Injection LAB WORK
		4	Chapter 4: Cybercrimes and Cyber security: The Legal Perspectives 4.1 Introduction 4.2 Cybercrime and the Legal Landscape around the World 4.3 Why Do We Need Cyberlaws: The Indian Context 4.4 The Indian IT Act 4.5 Challenges to Indian Law and Cybercrime Scenario in India
3	DEC	1	4.6 Consequences of not Addressing the Weakness in Information Technology Act 4.7 Digital Signatures and the Indian IT Act 4.8 Amendments to the Indian IT Act 4.9 Cybercrime and Punishment 4.10 Cyberlaw, Technology and Students: Indian Scenario
		2	Chapter 5: Cyber Forensics 5.1 Introduction 5.2 Historical background of Cyber forensics 5.3 Digital Forensics Science 5.4 The Need for Computer Forensics
		3	5.5 Cyber Forensics and Digital evidence 5.6 Forensics Analysis of Email 5.7 Digital Forensics Lifecycle 5.8 Challenges in Computer Forensics LAB WORK
		4	Chapter 6: Cybersecurity: Organizational Implications 6.1 Organizational Implications: Cost of cybercrimes and IPR issues 6.2 Web threats for organizations 6.3 Security and Privacy Implications from Cloud Computing 6.4 Social media marketing
4	Jan-22	1	6.5 Social computing and the associated challenges for organizations, Protecting people's privacy in the organization 6.6 Organizational guidelines for Internet usage and safe computing guidelines and computer usage policy 6.7 Incident handling Intellectual property in the cyberspace of cyber security. 6.8 LAB WORK
		2	Chapter 7: Cybercrime: Illustrations, Examples and Mini-Cases 7.1 Real-Life Examples 7.2 Mini-Cases 7.3 Illustrations of Financial Frauds in Cyber Domain
		3	7.4 Digital Signature-Related Crime Scenarios 7.5 Digital Forensics Case Illustrations 7.6 Online Scams LAB WORK



Pragya education trust's
Pragya college of management & computer studies,
Handewadi, Pune-411060

BBA (CA)– Semester: V

Teaching Plan 2021-2022

Name of Faculty:

prof. amina qadri

Subject: Object Oriented Software Engineering

(SUBJECT CODE:-502)

Sr.No.	Month	Week	Topic
1	OCT	2	Chapter 1: Introduction and basics of Software Modelling 1.1 Software Life Cycle Models (Revision of SE) 1.2 System Concepts 1.3 Project Organization
		3	1.4 Communication in Project Management 1.5 Risk management in Project Management LAB WORK
		4	Chapter 2 : SRS Documentation 2.1 SRS Specification 2.2 Requirement Elicitation 2.3 Business Engineering LAB WORK
2	NOV	1	DIWALI VACATION
		2	Chapter 3 : Introduction to UML 3.1 Concept of UML 3.2 Advantages of UML
		3	Chapter 4: Object Oriented Concepts and Principles 4.1 What is Object Orientation? - Introduction , Object , Classes and Instance , Polymorphism, Inheritance 4.2 Object Oriented System Development- Introduction, Function/Data Methods (With Visibility), Object Oriented Analysis, Object Oriented Construction LAB WORK
		4	4.3 Identifying the Elements of an Object Model 4.4 Identifying Classes and Objects 4.5 Specifying the Attributes (With Visibility) Defining Operations 4.7 Finalizing the Object Definition LAB WORK 4.6
3	DEC	1	Chapter 5: Structural Modeling 5.1 Classes 5.2 Relationship 5.3 Common Mechanism 5.4 Class Diagram (Minimum three examples should be covered)
		2	5.5 Advanced Classes 5.6 Advanced Relationship 5.7 Interface 5.8 Types and Roles 5.9 Packages 5.10 Object Diagram (Minimum three examples should be covered)
		3	Chapter 6: Basic Behavioural Modeling 6.1 Interactions 6.2 Use Cases and Use Case Diagram with stereo types (Minimum three examples should be covered) 6.3 Interaction Diagram (Minimum two examples should be covered) LAB WORK
		4	6.4 Sequence Diagram (Minimum two examples should be covered) 6.5 Activity Diagram (Minimum two examples should be covered) 6.6 State Chart Diagram (Minimum two examples should be covered)
4	Jan-22	1	Chapter 7 : Architectural Modelling 7.1 Component 7.2 Components Diagram (Minimum two examples should be covered) 7.3 Deployment Diagram (Minimum two examples should be covered) 7.4 Collaboration Diagram (Minimum two examples should be covered) LAB WORK
		2	Chapter 8: Object Oriented Analysis 8.1 Iterative Development and the Rational Unified Process 8.2 Inception 8.3 Understanding Requirements 8.4 Use Case Model From Inception to Elaboration 8.5 Elaboration LAB WORK
		3	Chapter 9: Object Oriented Design 9.1 The Booch Method, The Coad and Yourdon Method and Jacobson Method and Raumbaugh Method 9.2 The Generic Components of the OO Design Model The System Design Process - Partitioning the Analysis Model, Concurrency and Sub System Allocation, Task Management Component, The Data Management Component, The Resource Management Component, Inter Sub System Communication LAB WORK 9.3



Pragnya education trust's
Pragnya college of management & computer studies,
Handewadi, Pune-411060

BBA(CA) -- Semester: V

Teaching Plan 2021-2022

Name of Faculty:
Subject: Core Java

prof. sunita kanadikar
(SUBJECT CODE-503)

Sr.No.	Month	Week	Topic
1	OCT	2	Chapter 1: Java Fundamentals 1.1 Introduction to Java. 1.1 Features of Java 1.2 Basics of Java: - Data types, variable, expression, operators, constant. 1.3 Structure of Java Program LAB WORK
		3	1.4 Execution Process of java Program. 1.5 JDK Tools. 1.6 Command Line Arguments. 1.7 Array and String; 1.7.1 Single Array & Multidimensional Array 1.7.2 String, String Buffer 1.8 Built In Packages and Classes : 1.8.1 java.util:- Scanner, Date, Math etc. 1.8.2 java.lang LAB WORK
		4	Chapter 2: Classes, Objects and Methods 2.1 Class and Object 2.2 Object reference 2.3 Constructor: Constructor Overloading
2	NOV	1	DIWALI VACATION
		2	2.4 Method: Method Overloading, Recursion, Passing and Returning object form Method 2.5 new operator, this and static keyword, finalize() method 2.6 Nested class, Inner class, and Anonymous inner class LAB WORK
		3	Chapter 3 : Inheritance, Package and Collection 3.1 Overview of Inheritance 3.2 inheritance in constructor 3.3 Inheriting Data members and Methods, 3.4 Multilevel Inheritance – method overriding Handle multilevel constructors LAB WORK
		4	3.5 Use of super and final keyword 3.6 Interface: 3.7 Creation and Implementation of an interface, Interface reference 3.8 Interface inheritance 3.9 Dynamic method dispatch 3.10 Abstract class 3.11 Comparison between Abstract Class and interface 3.12 Access control LAB WORK
3	DEC	1	3.13 Packages 3.13.1 Packages Concept 3.13.2 Creating user defined packages 3.13.3 Java Built inpackages 3.13.4 Import statement, Static import
		2	3.14 Collection 3.14.1 CollectionFramework. 3.14.2 Interfaces: Collection, List, Set 3.14.3 Navigation: Enumeration, Iterator, ListIterator 3.14.4 Classes: LinkedList, ArrayList, Vector, HashSet LAB WORK
		3	Chapter 4: File and Exception Handling Exception 4.1 Exception and Error 4.2 Use of try, catch, throw, throws and finally 4.3 Built in Exception 4.4 Custom exception 4.5 Throwable Class
		4	File Handling 4.6 Overview of Different Stream (Byte Stream, Character stream) 4.7 Readers and Writers class 4.8 File Class LAB WORK
4	Jan-22	1	4.9 File Input Stream , File Output Stream 4.10 Input Stream Reader and Output Stream Writer class 4.11 FileReader and FileWriter class 4.12 Buffered Reader class. LAB WORK
		2	Chapter 5: Applet, AWT, Event and Swing Programming Applet 5.1 Introduction 5.2 Typesapplet 5.3 Applet Lifecycle 5.3.1 Creatingapplet 5.3.2 Applet tag 5.4 AppletClasses 5.4.1 Color 5.4.2 Graphics 5.4.3 Font
		3	AWT 5.5 Components and container used inAWT 5.6 Layoutmanagers 5.7 Listeners and Adapterclasses 5.8 Event Delegationmodel
		4	Swing 5.9 Introduction to Swing Componentand Container Classes 5.10Exploring Swing Controls- JLabel and Image Icon, JText Field, The Swing Buttons JButton, JToggle Button, JCheck Box, JRadio Button, JTabbed Pane, JScroll Pane, JList, JTable, JComboBox, Swing Menus, Dialogs, JFileOpen, JColorChooser. LAB WORK



Pragnya education trust's
Pragnya college of management & computer studies,
Handewadi, Pune-411060

BBA (CA)-- Semester: V

Teaching Plan 2021-2022

Name of Faculty:
Subject: Mongo DB

prof.sunita kanadikar

(SUBJECT CODE-504)

Sr.No.	Month	Week	Topic
1	OCT	2	Chapter 1: Introduction to NoSQL Databases 1.1 Introduction to NoSQL Databases 1.2 Difference between NoSQL and RDBMS 1.3 Need of NoSQL Databases
		3	1.4 Application of NoSQL Databases 1.5 Types of NoSQL Databases 1.6 What is MongoDB? 1.7 Features of MongoDB LAB WORK
		4	Chapter 2 : MongoDB Basics 2.1 Installing MongoDB 2.2 MongoDB Server and Database, MongoDB tools 2.3 Collection, Documents and Key-Values
2	NOV	1	DIWALI VACATION
		2	2.4 Data Modeling Concepts 2.4.1 Why Data Modeling? Data Modeling Approach 2.4.2 Analogy between RDBMS & MongoDB Data Model, MongoDB Data 2.4.3 Model (Embedding & Linking) 2.4.4 Challenges for Data Modeling in MongoDB 2.4.5 Data Model Examples and Patterns LAB WORK
		3	2.5 Mongo shell Commands to create, delete database, collection & documents 2.6 MongoDB Datatypes 2.7 Inserting and saving documents 2.7.1 Batch Insert 2.7.2 Insert Validation 2.8 MongoDB GUI like compass LAB WORK
		4	Chapter 3: MongoDB CRUD Operations 3.1 MongoDB Development Architecture 3.2 MongoDB Production Architecture 3.3 MongoDB CRUD Introduction, MongoDB CRUD Concepts 3.4 MongoDB CRUD Concerns (Read & Write Operations)
3	DEC	1	3.5 Concern Levels, Journaling 3.6 Cursor Query Optimizations, Query behaviour in MongoDB 3.7 Distributed Read & Write Queries 3.8 MongoDB CRUD Syntax & Queries LAB WORK
		2	Chapter 4 :MongoDB Index and Aggregation 4.1 Index Introduction, Index Concepts, Index Types, Index Properties 4.2 Index Creation and Indexing Reference 4.3 Introduction to Aggregation
		3	4.4 Approach to Aggregation 4.5 Types of Aggregation (Pipeline, MapReduce & Single Purpose) 4.6 Performance Tuning
		4	LAB WORK
4	Jan-22	1	Chapter 5: MongoDB Administration 5.1 Administration concepts in MongoDB 5.2 Monitoring issues related to Database 5.3 Monitoring at Server, Database, Collection level, and various Monitoring tools related to MongoDB
		2	5.4 Database Profiling, Locks, Memory Usage, No of connections, page fault 5.5 Backup and Recovery Methods for MongoDB 5.6 Export and Import of Data to and from MongoDB
		3	5.7 Run time configuration of MongoDB 5.8 Production notes/ best practices 5.9 Data Managements in MongoDB (Capped Collections/ Expired data from TTL), Hands on Administrative Tasks. LAB WORK



Pragya education trust's
Pragya college of management & computer studies,
Handewadi, Pune-411060

BBA (CA) -- Semester: V

Teaching Plan 2021-2022

Name of Faculty:
Subject: Python

prof.sunita kanadikar

(SUBJECT CODE-504)

Sr.No.	Month	Week	Topic
1	OCT	2	Chapter 1: Introduction to Python 1.1 History, feature of Python, setting up path, working with python Interpreter, basic syntax, variable and data types, operators 1.2 Conditional statements-If, If-Else, nested if-else, Examples. 1.3 Looping-For,While,Nested loops, Examples
		3	1.4 Control Statements-Break, Continue, Pass. 1.5 String Manipulation-Accessing String, Basic Operations, String Slices, Function and Methods, Examples. 1.6 Lists-Introduction, accessing list, operations, working with lists, function & methods. LAB WORK
		4	1.7 Tuple-Introduction, Accessing tuples, operations working, function & methods, Examples. 1.8 Dictionaries-Introduction, Accessing values in dictionaries, working with dictionaries, properties, function, Examples. 1.9 Functions-Defining a function, calling a function, types of function, function arguments, anonymous function, global & local variable, Examples. LAB WORK
2	NOV	1	DIWALI VACATION
		2	Chapter 2 : Modules and Packages 2.1Built in Modules 2.1.1 Importing modules in python program 2.1.2 Working with Random Modules. 2.1.3 E.g. - built-ins, time, date time, calendar, sys, etc 2.2 User Defined functions
		3	2.2.1Structure of Python Modules 2.3 Packages 2.3.1 Predefined Packages 2.3.2User defined Packages
		4	LAB WORK
3	DEC	1	Chapter 3 : Classes ,Objects and Inheritance 3.1 Classes and Objects 3.1.1 Classes as User Defined Data Type 3.1.2 Objects as Instances of Classes 3.1.3 Creating Class and Objects 3.1.4 Creating Objects By Passing Values 3.1.5 Variables & Methods in a Class
		2	3.2 Inheritance 3.2.1 Single Inheritance 3.2.2 Multilevel Inheritance Multiple Inheritance 3.2.4 Hybrid Inheritance 3.2.5 Hierarchical Inheritance 3.2.6 IS-A Relationship and HAS-A Relationship LAB WORK
		3	Chapter 4: Exception Handling 4.1 Python Exception 4.2 Common Exception 4.3 Exception handling in Python (try-except-else)
		4	4.4 The except statement with no exception 4.5 Multiple Exception 4.6 The try-finally clause 4.7 Custom Exception and assert statement LAB WORK
4	Jan-22	1	Chapter 5: GUI Programming 5.1 Introduction 5.2 Tkinter programming 5.4 Tkinter widgets 5.5 Frame 5.6 Button 5.7 Label 5.8 Entry LAB WORK
		2	Chapter 6: Python Libraries 6.1 Statistical Analysis- NumPy, SciPy, Pandas, StatsModels 6.2 Data Visualization- Matplotlib, Seaborn, Plotly 6.3 Data Modelling and Machine Learning- Scikit-learn, XGBoost, Eli5
		3	6.4 Deep Learning- TensorFlow, Pytorch, Keras 6.5 Natural Language Processing (NLP)- NLTK, SpaCy, Gensim LAB WORK