Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore

Shri Vaishnav Institute of Computer Applications

Name of Program: BCA + MCA/ BCA+MCA (Banking Technology)

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA501	DCC	Java programming and Technology (Core Java)	3	0	0	3	60	20	20	0	0

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Education Objectives (CEOs):

- Students must be able to understand fundamentals of programming such as variables, conditional and iterative execution, methods etc.
- Students must be able to understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods using class libraries etc.
- Students must have the ability to write a computer program to solve specified problems.
- Students must be able to use the Java SDK environment to create, debug and run simple Java programs.

Course Outcomes (COs):

After the successful completion of the course students will be able to perform the following tasks:

- Write, compile, and execute Java programs that may include basic data types and control flow constructs using Integrated Development Environments (IDEs) such as Eclipse, NetBeans, and JDeveloper.
- Write, compile and execute Java programs using object oriented class structures with parameters, constructors, utility and calculations methods including inheritance, test classes and exception handling.
- Write, compile and execute Java programs using arrays and recursion, manipulating Strings and text documents.

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BCCA501	DCC	Java programming and Technology (Core Java)	3	0	0	3	60	20	20	0	0

- Write, compile and execute Java programs that include GUIs and event driven programming.
- Write a final project that may be selected from among the following: applets for inclusion in web pages; applets to access enterprise data bases in robust, enterprise three level applications; secure communications over the internet; or an approved project chosen by the student.

Syllabus:

UNIT – I

Importance and features of Java, Language Construct of java including Keywords, constants, variables, looping and decision making construct, Classes and their implementation, Introduction to JVM and its architecture including set of instructions. Overview of JVM Programming. Internal and detailed explanation of a valid .class file format. Instrumentation of a .class file, Byte code engineering libraries, Overview of class loaders and Sandbox model of security.

UNIT - II

Introducing classes, objects and methods: Defining a Class, Adding Variables and Methods, Creating Objects, Access Protection, Constructors, Inheritance. Arrays and String: Creating An Array, One and Two Dimensional Arrays, String Array And Methods, Classes: String and String Buffer Classes, Wrapper Classes: Basic Types, Using Super, Multilevel Hierarchy Abstract and Final Classes, Object Class, Packages and Interfaces, Extending Interfaces.

UNIT – III

Exception Handling: Fundamentals Exception Types, Uncaught Exceptions, Throw, Final, Built In Exception, Creating Your Own Exceptions,

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BCCA501	DCC	Java programming and Technology (Core Java)	3	0	0	3	60	20	20	0	0

Multithreaded Programming: Fundamentals, Java Thread Model: Priorities, Synchronization, Messaging, Thread Classes, Runnable Interface, Inter Thread Communication, Suspending, Resuming and Stopping Threads.

Input/ Output Programming: Basics, Streams, Byte and Character Stream, Predefined Streams, Reading and Writing from Console and Files.

UNIT – IV

Event Handling: Different Mechanism, the Delegation Event Model, Event Classes, Event Listener Interfaces, Adapter and Inner Classes, Working with windows, Graphics and Text, use of AWT controls, Layout managers and menus, handling Image, animation, sound and video, Java Applet.

The Collection Framework: The Collection Interface, Collection Classes, Working with Maps & Sets.

UNIT – V

JDBC: Introduction to DBMS & RDBMS, DBC API, JDBC Application Architecture, Obtaining a Connection, JDBC Models: Two Tier and Three Tier Model, ResultSet, Prepared Statement, Callable Statement.

RMI (Remote Method Invocation): Introduction, Steps in creating a Remote Object, Generating Stub & Skeleton, RMI Architecture, RMI packages.

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							END SEM University Exam	Two Term Exam	Teachers Assessment *	END SEM University Exam	Teachers Assessment *
BCCA501	DCC	Java programming and Technology (Core Java)	3	0	0	3	60	20	20	0	0

Text Books:

1. Java: A Beginner's Guide, Herbert Schildt, McGraw-Hill Education, 8th Edition.
2. Head First Java, Kathy Sierra & Bert Bates, Shroff/O'Reilly, 2nd Edition.
3. Programming with Java,E. Balagurusamy, McGraw-Hill Education, 3rd Edition.
4. Paul Dietel and Harvey Deitel, "Java How to Program", PHI, 8th edition, 2010.

Reference Books:

1. Head First Object-Oriented Analysis and Design, Brett McLaughlin, Gary Pollice, David West, O'Reilly Media, 2009.
2. Horstmann, "Computing Concepts with Java 2 Essentials", John Wiley.
3. Decker and Hirshfield, "Programming Java: A Introduction to Programming Using JAVA", Vikas Publication, 2000.
4. Daniel Liang, "Introduction to Java Programming", Pearson, 7th edition, 2010.

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA502N	BS	Operations Research	3	0	0	3	60	20	20	0	0

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*__Teacher Assessment__ shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Education Objectives (CEOs):

To introduce the students with the optimization techniques and Operation Research

Course Outcomes (COs):

After the successful completion of this course students will be able to:

1. understand and discuss the concept of the optimization techniques in the LPP.
2. solve linear programming problems.
3. analyze and adopt the techniques of Transportation problems, sequencing problems and Assignment problems.
4. demonstrate and apply Network Analysis through PERT / CPM.

UNIT – I: Introduction to OR-Definition of operations research, models of operations research, scientific methodology of operations research, scope of operations research, importance of operations research in decision making, role of operations management, limitations of OR.

UNIT – II: Linear Programming -Introduction – Mathematical formulation of a problem – Graphical solutions, standard forms the simplex method for maximization and minimization problems. Method application to management decisions.

UNIT – III: Transportation problem – Introduction – Initial basic feasible solution - NWC method – Least cost method – Vogel's method – MODI – moving towards optimality – solution procedure without degeneracy.

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BCCA502N	BS	Operations Research	3	0	0	3	60	20	20	0	0

UNIT – IV: Assignment problem – Algorithm – Hungarian method – simple problem.

Sequencing Problems: Introduction, processing jobs through two machines, three machines. Replacement theory.

UNIT – V: Network Analysis: -CPM and PERT, introduction, time estimates, slack, float, finding critical paths, problem solving.

References

1. Taha Hamdy A: Operation Research; an introduction, Sixth ed., PHI, 2001
2. Gillett Billy E: Introduction to Operation Research, Tata-Mcgraw Hill, 1979

Text Books

1. Hillier FS and Liberman GJ; Introduction to Operations Research concept and cases; TMH
2. Srinivasan G; Quantitative Models In Operations and SCM; PHI Learning
3. Taha H; Operations research; PHI
4. Sen RP; Operations Research-Algorithms and Applications; PHI Learning
5. Sharma JK; Operations Research; Macmillan
6. Ravindran, Philips and Solberg; Operations research; Wiley India
7. Bronson R; Theory and problems of OR; Schaum Series; TMH.

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA503	AEC	Web Designing	3	0	0	3	60	20	20	0	0

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Course Educational Objectives (CEOs):

- To provide an introduction to the fundamental concepts of HTML and CSS.
- To familiarize with XML and web designing.

Course Outcomes (COs): The student will be able to:

- Learn about basics of Web Designing.
- Understand how to develop static webpage.
- Learn to develop a static Website using HTML and CSS.
- Understand the concepts of XML.

Syllabus:

UNIT-I

Web Essentials: Clients, Servers and Communication, The Internet, Basic Internet protocols, World wide web, HTTP Request Message, HTTP Response Message, Web Clients, Web Servers, Types of Websites (Static and Dynamic Websites)

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							THEORY			PRACTICAL	
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BCCA503	AEC	Web Designing	3	0	0	3	60	20	20	0	0

UNIT-II

Introduction to HTML

History of HTML, HTML Attributes, HTML Basic Tags, HTML Formatting Tags, Head Tags, Title Tags, Body Tags, Horizontal Lines, Page Formatting Div, Headings, Comments, Anchor tag, List tag: Ordered List, Unordered List, Adding images

UNIT-III

Advanced HTML

Tables: Inserting a Table, Table Borders, Table Headers, Frames: Inserting frames, Setting Height and Width, Forms: Text Boxes, Text Areas, Check Boxes, Menu Lists, Radio Buttons, Submit Button, Video and Audio tags.

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BCCA503	AEC	Web Designing	3	0	0	3	60	20	20	0	0

UNIT-IV

CSS (Cascading Style Sheet)

CSS Introduction: CSS Syntax, Tag structure, CSS Selectors (ID, Class, Tags, Attributes), CSS Styling, Styling Backgrounds, Styling Text, Styling Fonts, Styling Links, Styling Lists, Styling Tables, CSS Box Model, CSS Border, CSS Outline, CSS Margin, CSS Positioning, CSS Image Gallery, Borders, Border Images, Backgrounds, Text, Fonts.

UNIT-V

XML: Basic XML, Objectives of XML, Advantages of XML, Well-formed and valid XML Documents, Document Type Definition- Presenting XML, XML Schema, DOM Document Object Model), DTD (Document Type Definitions), XML Namespaces, XSLT (Extensible Stylesheet Language Transformation)

Reference Books:

1. HTML & CSS Design and Build Websites -Jon Ducket,18 November 2011
2. The Essential Guide to CSS and HTML Web Design-Craig Grannell, Apress,Third Edition,9 March 2008
3. HTML & CSS: The Complete Reference-Thomas A Powell, Mcgraw Hill, Fifth Edition.
4. HTML 5 Black Book-DT Editorial Services, Second Edition,2016.

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BBAIEF505	DCC	Banking Services and Management	4	0	0	4	60	20	20	0	0

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*__Teacher Assessment__ shall be based on following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives

1. The objective of the course is to providing an in-depth analysis of the commercial banking in the liberalized Indian economy
2. Familiarizing the students with the regulating framework for banks in India

Examination Scheme

The internal assessment of the students' performance will be done out of 40 Marks. The semester Examination will be worth 60 Marks. The question paper and semester exam will consist of two sections A and B. Section A will carry 36 Marks and consist of 5 questions, out of which student will be required to attempt any three questions. Section B will comprise of one or more cases / problems worth 24 marks.

Course Outcomes

1. Equip the students with the in depth knowledge of financial management in the banking organizations.
2. Give understanding of new banking practices and processes.
3. Familiarize the students with concept of CAR, Liquidity ratios.

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BBAIEF505	DCC	Banking Services and Management	4	0	0	4	60	20	20	0	0

COURSE CONTENT

Unit I: Introduction to Indian Banking System

1. Indian Financial System: An Overview
2. Indian Banking System ,Role and Importance of Banks
3. Banking Structure in India ,Types of Banks

Unit II: Analysis of the Banking Structure

1. Analysis of the Banking Structure
2. Interpreting Bank Balance Sheet
3. Income Expenditure Statements
4. CAR, Liquidity Ratios, Structural Ratios and Profitability Ratios

Unit III: Banking Regulations

1. Banking Regulations
2. CRR, SLR, CRAR
3. Provision for NPAs , Impact of NPA, Factors responsible for NPA
4. Credit Risk Management
5. Treasury Management

Unit IV: Banking Organizations

1. Loan Management
2. Investment Management
3. Asset Liability Management Using traditional GAP and Modern Techniques

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BBAIEF505	DCC	Banking Services and Management	4	0	0	4	60	20	20	0	0

Unit V: Opportunities for Banks

1. Mergers and Acquisition
2. Opportunity for Strengthening the Banking Organization
3. International Banking Organizational Structure, Activities and Regulation

Suggested Readings

1. Rejda, G. (2010). ***Principles of Risk Management and Insurance***. Pearson, Boston.
2. Iyenge, V. (2010). ***Introduction to Banking***. Excel Books, New Delhi.
3. Arunajatesan, S. & Viswanathan, T. R. (2009). **Risk Management** & **Insurance**. Macmillan Publishers, India.
4. Hull, John C. (2010). ***Risk Management and Financial Institutions***. Pearson, Singapore.
5. Joshi, V. and Joshi, V. (1998). ***Managing Indian Bank***. Response Books, London.
6. Paul, J. (2010). ***Management of Banking and Financial Services.*** Pearson, India.

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BCBT511	DSE	Information and Computer Security	4	0	0	4	60	20	20	0	0

Course Education Objectives (CEOs):

This introductory course is aimed at giving basic understanding about Information and computer security. This entry-level course covers a broad spectrum of security topics and is based on real-life examples to create Information and computer security interest in the students. A balanced mix of technical and managerial issues makes this course appealing to attendees who need to understand the salient facets of information and computer security basics and the basics of risk management.

Course Outcomes (COs):

At the end of the course, the students have firm understanding on basic terminology and concepts related to Information and system level security, basics of computers and networking including Internet Protocol, routing, Domain Name Service, and network devices. They are also exposed to basic cryptography, security management, and network security techniques. They also look at policies as a tool to effectively change an organization's culture towards a better secure environment.

UNIT - I:

History of Information and Computer Security, Attacks and Attackers, Security Management, Risk and Threat Analysis, Foundations of Information and Computer Security, Fundamental Dilemma of Information and Computer Security, Data vs. Information, Principles of Information and ComputerSecurity.

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BCBT511	DSE	Information and Computer Security	4	0	0	4	60	20	20	0	0

UNIT - II:

Identification and Authentication: Username and Password, Bootstrapping Password Protection, Guessing Passwords, Phishing, Spoofing and Social Engineering, Protecting the Password file, Single Sign-On.

Access Control: Authentication and Authorization, Access Operations, Access Control Structures, Ownership, Intermediate Controls, Policy Instantiation, Comparison of Security Attributes.

UNIT - III:

Database Security: Introduction, Relational Databases, Access Control, Statistical Database Security, Integration with the Operating System, Privacy.

Software Security: Introduction, Characters and Numbers, Canonical Representations, Memory Management, Data and Code, Race Conditions, Defences.

Bell-LaPadula Model: State Machine Models, The Multics Interpretation of BLP.

Security Models: The Biba Model, Chinese Wall Model, The Clark-Wilson Model

UNIT - IV:

Cryptography: Introduction, Integrity Check Functions, Digital Signatures, Encryption: Data Encryption Standard, RSA Encryption; Strength of Mechanisms.

Key Establishment: Introduction, Key Establishment and Authentication, Key Establishment Protocols, Kerberos, Public Key Infrastructures.

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BCBT511	DSE	Information and Computer Security	4	0	0	4	60	20	20	0	0

UNIT - V:

Communications Security: Introduction, Protocol Design Principles, IP Security, IPsec and Network Address Translation.

Network Security: Introduction, Firewalls, Intrusion Detection.

Web Security: Introduction, Authenticated Sessions, Code Origin Policies, Cross Site Scripting, Cross-Site Request Forgery, JavaScript Hijacking, Web Services Security.

Text Books:

1. Dieter Gollmann. Computer Security, 3rd Edition, Wiley, 2014. ISBN: 978-81-265-5082-1.

Reference Books:

1. John Vacca, Computer and Information Security Handbook, 3rd Edition, Morgan Kaufmann, ISBN: 9780128038437.
2. Michael E. Whitman, Herbert J. Mattord, Principles of Information Security, 4th Edition, Thomson, ISBN: 9781111138219.
3. UmeshaNayak, Umesh R Hodeghatta, The InfoSec Handbook: An Introduction to Information Security, 1st Edition, Apress, ISBN: 978-1430263821.

   Mark Stump, Information Security: Principles and Practice, 2nd Edition, Wiley-Blackwell, ISBN: 978-0470626399

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA521	DSE	Information Systems for Management	4	0	0	4	60	20	20	0	0

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Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Educational Objectives (CEOs):

- To develop an understanding among the students about and the role of Information System with its importance and role in society and organizations
- To develop an understanding among the students about MIS, its architecture with importance and various stages involved in MIS development.
- To understand the concept of Systems development life cycle (SDLC), BPR and ERP.
- To introduce about virtual organization concept, information security and cyber law.
- Make the students capable to identify, conceptualize, and develop solutions as a group for successful information systems management and present them.
- Make the students aware about concept of data mining, Business Intelligence (BI), Data Warehousing, Online Analytical Processing (OLAP) and Online transaction processing (OLTP).

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BCCA521	DSE	Information Systems for Management	4	0	0	4	60	20	20	0	0

Course Outcomes (Cos): At the end of the course, it is expected that students will be able to

- Understand the activities that are undertaken in acquiring an Information System in an organization.
- Understand Management Information Systems (MIS) and their role in today's organizations.
- Identify how MIS shapes and controls current (or prospective) jobs and how to use this insight to improve your own job performance and satisfaction and enhance future career prospects.
- Become familiar with the concept of BPR and ERP.
- Identify importance of data mining, Business Intelligence (BI), Data Warehousing, Online Analytical Processing (OLAP) and Online transaction processing (OLTP).

Syllabus:

UNIT-I

Introduction to Information Systems: Introduction to basic system concepts and its types, Data Vs Information, definition and Concept of an information system, Characteristics and Value of Information, Information System Resources, Importance of Information system for decision making and strategy building, Role of Information Systems in Society and organization, Constraints and Limitations of Information System.

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
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BCCA521	DSE	Information Systems for Management	4	0	0	4	60	20	20	0	0

UNIT-II

Introduction to MIS: Management, Information, System, Concepts of management information system, MIS evolution, MIS architecture, Need for MIS, functions of MIS, Planning techniques of MIS, Limitations of MIS, Types of Information System: Transaction Processing Systems, Office Automation Systems, Decision Support Systems, Executive Information System.

UNIT-III

Development of Information System: Different steps in Systems development life cycle (SDLC) like Planning, Analysis, Design, Implementation, maintenance and review.

Management of Enterprise Resources: Enterprise Resource Planning (ERP): Introduction and Implementation of ERP. Business process reengineering (BPR): Introduction and Process of BPR.

UNIT-IV

Management Trends: Trends in management and organizations, movement towards flexible, virtual organizations with advantages and disadvantages, MIS and mobile computing, MIS and social media. Information security and cyber law: Introduction.

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BCCA521	DSE	Information Systems for Management	4	0	0	4	60	20	20	0	0

UNIT-V

Data Mining: Introductions and name of its applications. Business Intelligence (BI): introduction, features and name of tools used for decision making, Data Warehouse: Introduction, features and name of applications, Introduction of Online Analytical Processing (OLAP) and online transaction processing (OLTP).

Text Books:

1. Kenneth C. Laudon & Jane P. Laudon (2019), 'Essentials of Management Information Systems', Pearson Prentice-Hall, 13th Edition.
2. James, A. O'Brien (2017). "Introduction to Information Systems", Tata McGraw Hill , 1 2thEdition.
3. Goyal, D.P. (2014). "Management Information Systems: Managerial Perspectives", Macmillan India Ltd.
4. McNurlin, Sprague &Bui(2009), "Information Systems Management in Practice", Prentice Hall, 8 th Edition.
5. Jawadekar, W. S. (2004). "Management Information Systems", Tata McGraw Hill.

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							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
BCCA531	DSE	Data Mining and Warehousing	4	0	0	4	60	20	20	0	0

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
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***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Educational Objectives (CEOs):

- To familiarize the students with the need and scope of the subject to build the mental makeup of the students for the field of data mining.
- Using simple and well drawn illustrations develop students skills to discover knowledge to support the decision making process.
- To make the students well versed with the latest trends in data warehousing and data mining.

Course Outcomes (Cos): The student will be able to

- Understand the basic principles, concepts and applications of data warehousing and data mining.
- Introduce the task of data mining as an important phase of knowledge recovery process.
- Ability to do Conceptual, Logical and Physical design of Data Warehouses, OLAP applications and OLAP deployment.
- Have a good knowledge of the fundamental concepts that provide the foundation of data mining.
- Design and implement a data warehouse or data mart to present information needed by management in a form that is usable for management client.
- Design and implement the data preprocessing solutions for different applications.
- Identify and use suitable data mining techniques for Knowledge Discovery.
- Develop dashboard solutions for presentation of knowledge.
- Explore the subject to start as a researcher

Shri Vaishnav Vidyapeeth Vishwavidyalaya Indore

Shri Vaishnav Institute of Computer Applications

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							THEORY			PRACTICAL	
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BCCA531	DSE	Data Mining and Warehousing	4	0	0	4	60	20	20	0	0

UNIT – I

Data Mining: Introduction, Motivation, importance, Data type for Data Mining: relation Databases, Data Warehouses, Transactional databases, advanced database system and its applications, Data mining Functionalities: Concept/Class description, Association Analysis, classification & Prediction, Cluster Analysis, Outlier Analysis, Evolution Analysis, Classification of Data Mining Systems.

UNIT – II Data Warehouse and OLAP Technology for Data Mining: Differences between Operational Database Systems and Data Warehouses, a multidimensional Data Model, Data Cube, Data Warehouse Architecture, data warehouse servers.

UNIT- III

Data Preprocessing: Introduction and need of data preprocessing, data preprocessing as a process, Data Cleaning, Data Integration and Transformation, Data Reduction, Discretization and Concept Hierarchy Generation. Data Mining Primitives, Concept Description: Characterization and Comparison, Analytical Characterization.

UNIT – IV

Association Rule Mining: Market Basket Analysis, Basic Concepts, Mining Single-Dimensional Boolean Association Rules from Transactional Databases: different algorithms, the Apriori Partition, Dynamic Item set Counting, Generating Association rules from Frequent items.

UNIT – V

Classification and Prediction and Cluster Analysis: Issues regarding classification and prediction,
Major Issues in Data Mining, Applications and Trends in Data Mining: Data Mining Applications, currently available tools.

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BCCA531	DSE	Data Mining and Warehousing	4	0	0	4	60	20	20	0	0

Text Books:

1. J. Han and M. Kamber, *Data Mining: Concepts and Techniques*, Morgan Kaufmann Pub., III Edition, 2011
2. Berson, *Data Warehousing, Data Mining and OLAP*, TMH, I Edition, 1997.
3. W.H. Inmon, *Building the Data Warehouse*, Wiley India, III Edition, 2005.
4. Anahory, *Data Warehousing in Real World*, Pearson Education, II Edition, 2012.
5. Adriaans, *Data Mining*, Pearson Education, I Edition, 2002.
6. A.K. Pujari, *Data Mining Techniques*, University Press, Hyderabad, IV Edition,2016

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BCCA506	DCC	JAVA Lab	0	0	4	2	0	0	0	30	20

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.
***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Education Objectives (CEOs):

- Students must be able to understand fundamentals of programming such as variables, conditional and iterative execution, methods etc.
- Students must be able to understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries etc.
- Students must have the ability to write a computer program to solve specified problems.
- Students must be able to use the Java SDK environment to create, debug and run simple Java programs.

Course Outcomes (COs): After the successful completion of the course students will be able to perform the following tasks:

- Write, compile, and execute Java programs that may include basic data types and control flow constructs using Integrated Development Environments (IDEs) such as Eclipse, NetBeans, and JDeveloper.
- Write, compile and execute Java programs using object oriented class structures with parameters, constructors, utility and calculations methods including inheritance, test classes and exception handling.
- Write, compile and execute Java programs using arrays and recursion, manipulating Strings and text documents.
- Write, compile and execute Java programs that include GUIs and event driven programming.
- Write a final project that may be selected from among the following: applets for inclusion in web pages; applets to access enterprise data bases in robust, enterprise three level applications; secure communications over the internet; or an approved project chosen by the student.

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BCCA506	DCC	JAVA Lab	0	0	4	2	0	0	0	30	20

List of Experiments:

1. Write a Java program that prompts the user for an integer and then prints out all prime numbers up to that integer.
2. Write a Java program that checks whether a given string is a palindrome or not. Ex: MADAM is a palindrome.
3. Write a Java program for sorting a given list of names in ascending order.
4. Write a Java Program that reads a line of integers, and then displays each integer, and sum of all the integers (use StringTokenizer class).
5. Write a Java program that reads a file and displays the file on the screen, with a line number before each line.
6. Write a Java program that displays the number of characters, lines and words in a text file.
7. Write a Java program for creating multiple threads
   a) Using Thread class.
   b) Using Runnable interface.
8. Write a Java program that illustrates how run time polymorphism is achieved.
9. Write a java program that illustrates the following
   a) Creation of simple package.
   b) Accessing a package.
   c) Implementing interfaces.
10. Write a java program that illustrates the following
    a) Handling predefined exceptions.
    b) Handling user defined exceptions .
11. APPLETS
    a) Working with Frames and various controls.
    b) Working with Dialogs and Menus.
    c) Working with Panel and Layout.
    d) Incorporating Graphics.
    e) Working with colours and fonts.

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BCCA506	DCC	JAVA Lab	0	0	4	2	0	0	0	30	20

12. SWINGS
Jpanel- Jframe – Jtoolbar—Jwindow Framework

Text Books:

1. Patrick Naughton and HerbertzSchildt, “Java-2: The Complete Reference”, TMH, 5theditio, 2002.
2. Bill Venners, “Inside Java Virtual Machine”, TMH, 2nd edition.
3. Rick Darnell, “HTML 4 unleashed”, Techmedia Publication, 2000
4. Shelley Powers, “Dynamic Web Publishing”, 2nd edition, Techmedia, 1998.
5. Paul Dietel and Harvey Deitel, “Java How to Program”, PHI, 8th edition, 2010.

Reference Books:

1. E. Balagurusamy, “Programming with Java: A Primer”, TMH, 1998.
2. Horstmann, “Computing Concepts with Java 2 Essentials”, John Wiley.
3. Decker and Hirshfield, “Programming Java: A Introduction to Programming Using JAVA”, Vikas Publication, 2000.
4. N.P. Gopalan and J. Akilandeswari, “Web Technology- A Developer’s Perspective”, PHI, 2nd edition
5. Eric Jendrock, Jennifer Ball, Debbei Carson, “The Java EE5 Tutorial”, Pearson, 3rd edition, 2007.
6. Daniel Liang, “Introduction to Java Programming”, Pearson, 7th edition, 2010.

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BCCA507	AEC	Web Designing Lab	0	0	2	1	0	0	0	30	20

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit; Q/A – Quiz/Assignment/Attendance, MST - Mid Sem Test.

***Teacher Assessment** shall be based on following components: Quiz/Assignment/Project/Participation in class (Given that no component shall exceed 10 Marks)

Course Educational Objectives (CEOs):

- To provide an introduction to the fundamental concepts of HTML and CSS.
- To familiarize with XML and web designing.

Course Outcomes (COs): The student will be able to:

- Learn about basics of Web Designing.
- Understand how to develop static webpage.
- Learn to develop a static Website using HTML and CSS.
- Understand the concepts of XML.

List of Practical:

1. How to develop a simple webpage.
2. Develop a webpage using different HTML tags.
3. Develop a webpage using Table tag.
4. Develop a webpage using Frame tag.
5. Develop a webpage using Form tag
6. Develop a static website using HTML tags.
7. Create an HTML page, which has properly aligned paragraphs with image along with it.
8. Write a program to display list of items in different styles.
9. Create your own style sheets and use them in your web page.
10. Create a web page using XML.

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BCCA507	AEC	Web Designing Lab	0	0	2	1	0	0	0	30	20

Reference Books:

1. HTML & CSS Design and Build Websites -Jon Ducket,18 November 2011
2. The Essential Guide to CSS and HTML Web Design-Craig Grannell, Apress,Third Edition,9 March 2008
3. HTML & CSS: The Complete Reference-Thomas A Powell, Mcgraw Hill, Fifth Edition.
4. HTML 5 Black Book-DT Editorial Services, Second Edition,2016