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Choice Based Credit System (CBCS) 2016-17

COURSE CODE	Category	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTMA301		Applied Mathematics-III	60	20	20	-	-	3	1	-	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES
To introduce the students with the fundamentals of the Calculus of the Complex Variable, Random Variables and Fourier analysis.

COURSE OUTCOMES
After the successful completion of this course students will be able to:
1. Understand and apply the basics of the Calculus of the Complex variables.
2. Know the fundamentals of the Probability Theory and Random Process.
3. Apply the concepts of the Fourier Analysis
4. Know the techniques of the Fourier Transform.

SYLLABUS

UNIT–I
Complex Analysis
Complex numbers, geometric representation, powers and roots of complex numbers. Functions of a complex variable: Limit, Continuity, Differentiability, Analytic functions, Cauchy-Riemann equations, Harmonic functions, Harmonic conjugates. Elementary Analytic functions (polynomials, exponential function, trigonometric functions), Complex integration, Cauchy's integral theorem, Cauchy's integral formula. Taylor series and Laurent series. Zeros, Singularities and its classifications, Residues, Residue theorem and its applications.

UNIT–II
Probability Theory and Random Process
Axiomatic construction of the theory of probability, independence, conditional probability, and basic formulae, random variables, binomial, poisson and normal random variable, probability distributions, functions of random variables; mathematical expectations, Definition and classification of random processes, discrete-time Markov chains, Poisson process, Correlation and Regression; Expectation and Variance

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UNIT–III
Fourier series
Fourier Integral, Fourier series of 2p periodic functions, Fourier series of odd and even functions, Half-range series, Convergence of Fourier series, Gibb's phenomenon, Differentiation and Integration of Fourier series, Complex form of Fourier series.

UNIT–IV
Fourier Transformation
Fourier Integral Theorem, Fourier Transforms, Properties of Fourier Transform, Convolution and its physical interpretation, Statement of Fubini's theorem, Convolution theorems, Inversion theorem.

UNIT–V
Partial Differential Equations
Introduction to PDEs, basic concepts, Linear and non-linear first order PDE, Higher order linear homogeneous PDE, Separation of variable and its application to the one dimensional wave and heat equation.

TEXT BOOKS:
1. R. V. Churchill and J. W. Brown, Complex Variables and Applications, 5th Edition, McGraw-Hill, 1990.
2. K. Sankara Rao, Introduction to Partial Differential Equations, 2nd Edition, 2005.
3. G. R. Grimmett and D. R. Stirzaker, Probability and Random Processes, Oxford University Press, 2001.
4. P. G. Hoel, S. C. Port and C. J. Stone, Introduction to Probability Theory, Universal Book Stall, 2000.
5. W. Feller, An Introduction to Probability Theory and its Applications, Vol. 1, 3rd Edition, Wiley, 1968.
6. K. S. Trivedi, Probability and Statistics with Reliability, Queuing, and Computer Science Applications, Prentice Hall of India, 1998.
7. A. Papoulis and S. Unnikrishna Pillai, Probabilities, Random Variables and Stochastic Processes, 4th Edition, Tata McGraw-Hill, 2002.
8. S.M. Ross, Stochastic Processes, 2nd Edition, Wiley, 1996.
9. J. Medhi, Stochastic Processes, New Age International, 1994.
10. B. S. Grewal, Higher Engineering Mathematics, Khanna Publishers, Delhi.

REFERENCES:
1. J. H. Mathews and R. W. Howell, Complex Analysis for Mathematics and Engineering, 3rd Edition, Narosa, 1998.
2. I. N. Sneddon, Elements of Partial Differential Equations, McGraw-Hill, 1957.
3. E. Kreyszig, Advanced Engineering Mathematics, 5th / 8th Edition, Wiley Eastern / John Wiley, 1983/1999.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS302		Data Communication	60	20	20	-	50	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES
1. To understand the concepts of data communications.
2. To be familiar with the Transmission media and Tools.
3. To study the functions of OSI layers.
4. To learn about IEEE standards in computer networking.
5. To get familiarized with different protocols and network components.

COURSE OUTCOMES
Upon completion of the subject, students will be able to:
1. Understand the Process and functions of data communications
2. Understand Transmission media and Tools
3. Understand the functions of OSI layers
4. Understand IEEE standards in computer networking
5. Understand different protocols and network components.

SYLLABUS

UNIT–I
DATA COMMUNICATIONS
Data communication Components, Data representation and Data flow, Networks, Types of Connections, Topologies, Protocols and Standards, OSI model, Transmission Media, LAN, Wired LANs, Wireless LANs, Connecting LANs, Virtual LANs.

UNIT–II
DATA LINK LAYER

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Error Detection and Error Correction, Introduction–Block coding–Hamming Distance, CRC, Flow Control and Error control, Stop and Wait, Go back– N ARQ, Selective Repeat ARQ, Sliding Window, Piggybacking, Random Access, CSMA/CD,CDMA/CA.

UNIT–III
NETWORK LAYER
Switching, Logical addressing, IPV4, IPV6, Address mapping, ARP, RARP, BOOTP and DHCP, Delivery, Forwarding and Unicast Routing protocols.

UNIT–IV
TRANSPORT LAYER
Process to Process Delivery, User Datagram Protocol, Transmission Control Protocol, SCTP, Congestion Control with Examples.

UNIT–V
APPLICATION LAYER
Domain Name Space, DDNS, TELNET, EMAIL, File transfer, WWW, HTTP,SNMP, Cryptography, Basic concepts.

TEXT BOOKS:
1. Behrouz A. Forouzan, "Data communication and Networking", Tata McGraw– Hill, Fourth Edition, 2011.
2. "Data and Computer Communications" William Stallings.

REFERENCES:
1. Larry L.Peterson, Peter S. Davie, "Computer Networks", Elsevier, Fifth Edition, 2012.
2. William Stallings, "Data and Computer Communication", Eighth Edition, Pearson Education, 2007.
3. James F. Kurose, Keith W. Ross, "Computer Networking: A Top–Down Approach Featuring the Internet", Pearson Education, 2005.

LIST OF EXPERIMENTS:
1. To Study different type of Transmission Media.
2. To Study LAN using star topology.
3. To Study LAN using bus topology.
4. To Study LAN using tree topology.
5. To Study and configure modem of Computer.
6. To Study configure Hub/Switch.
7. To Study interconnection of cables for data communication.
8. To Study fiber optic communication.
9. To Study Wireless communication.
10. To Study PC-PC communication using LAN.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS303		Principles of Programming Languages	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
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COURSE OBJECTIVES

1. To improve the background for choosing appropriate programming languages for certain classes of programming problems.
2. To be able in principle to program in an imperative (or procedural), an object-oriented, a functional, and a logical programming language.
3. To Understand the significance of an implementation of a programming language in a compiler or interpreter
4. To Increase the ability to learn new programming languages
5. To Increase the capacity to express programming concepts and choose among alternative ways to express things

COURSE OUTCOMES

After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes:

1. Students will Gain insight and develop understanding to the underlying principles and concepts of programming languages. Also Gain an overview of programming language translation process.
2. Students will be able to competent with analyzing programming language design issues related to data types, expressions and control structures.
3. Students will be able to describe the concept of sub-programming with the help of Functions. Also develop understanding with the parameter passing techniques and concept of function overloading.
4. Students will be able to analyze various memory management techniques as well as apply various concepts of object oriented programming.
5. Students will be able to develop understanding with the exception handling concept and gain knowledge of logical and function programming.

SYLLABUS

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UNIT–I

Preliminary Concepts: Reasons for studying, concepts of programming languages, Programming domains,Language Evaluation Criteria, influences on Language design, Language categories, Programming Paradigms – Imperative, Object Oriented, functional Programming , Logic Programming. Programming Language Implementation – Compilation and Virtual Machines, programming environments. Issues in Language Translation: Syntax, Semantics, Stages, analysis and synthesis, Parse Tree, CFG and BNF grammar.

UNIT–II

Data types: Introduction, primitive, character, user defined, array, associative, record, union, pointer and reference types, design and implementation uses related to these types. Names ,Variable, concept of binding, type checking, strong typing, type compatibility, named constants, variable initialization.
Expressions and Statements: Arithmetic relational and Boolean expressions, Short circuit evaluation mixed mode assignment, Assignment Statements, Control Structures – Statement Level, Compound Statements, Selection, Iteration, Unconditional Statements, guarded commands.

UNIT–III

Subprograms and Blocks: Fundamentals of sub-programs, Scope and lifetime of variable, static and dynamic scope, Design issues of subprograms and operations, local referencing environments, parameter passing methods, overloaded sub-programs, generic sub-programs, design issues for functions overloaded operators, co routines.

UNIT–IV

Abstract Data types: Abstractions and encapsulation, introductions to data abstraction, Static and Stack-Based Storage management. heap based storage management. Garbage Collection.
object oriented programming in small talk, C++, Java, C#, PHP, Perl . Concurrency: Subprogram level concurrency, semaphores, monitors, massage passing, Java threads, C# threads.Exception handling, Exceptions, exception Propagation, Exception handler in C++ and Java.

UNIT–V

Functional Programming Languages: Introduction, fundamentals of FPL, LISP, ML, Haskell, application of Functional Programming Languages and comparison of functional and imperative Languages. Scripting Language: Pragmatics, Key Concepts.
Logic Programming Language : Introduction and overview of logic programming, basic elements of prolog, application of logic programming. Introduction to 4GL.

TEXT BOOKS:

1. Concepts of Programming Languages Robert .W. Sebesta 8/e, Pearson Education,2008.
2. Programming Language Design Concepts, D. A. Watt, Wiley dreamtech,rp-2007.
3. Sebesta,"Concept of programming Language", Pearson Edu.

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REFERENCES:

1. Programming Languages, 2nd Edition, A.B. Tucker, R.E. Noonan, TMH.
2. Programming Languages, K. C.Louden, 2nd Edition, Thomson,2003.
3. LISP, Patric Henry Winston and Paul Horn, Pearson Education.
4. Programming in Prolog, W.F. Clocksin,& C.S.Mellish, 5th Edition, Springer.
5. Terrance W Pratt, "Programming Languages: Design and Implementation" Pearson Edu.

LIST OF EXPERIMENTS:

1. Write a Program to implement type conversion and type casting.
2. Write a program to implement dynamic binding.
3. Write a program to implement scope rules.
4. Write a program to depict subprogram concept.
5. Write a program to create an abstract data type for complex numbers and perform basic operations such as Addition, subtraction and multiplication of two complex numbers on it.
6. Write a program to implement Exception handling in Java.
7. Write a Program to implement various message passing techniques in C.
8. Prepare a Case Study on: LISP.
9. Prepare a Case Study on: Prolog.
10. Prepare a Case Study on: ML.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTEC304	EC	Electronic Devices and Circuits	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
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COURSE OBJECTIVES
This course is electronics based course dealing with flow of current in bulk semiconductors and devices fabricated from semiconductor. The objectives of this course are to introduce students fundamental electronic devices, e.g. PN junction, BJT, MOSFETs their construction, their V-I characteristic, principles of operation, and applications. Emphasis has been given on basic standard circuits, the interaction of active and passive components and their overall performance.

COURSE OUTCOMES
After completion of this course the students are expected to be able to demonstrate following knowledge, skills and attitudes:
The students will be able to:-
1. To apply knowledge of mathematics, science in engineering.
2. To identify, formulate, and solve engineering problems.
3. Understand the basic physics of carrier transport in bulk semiconductors and real device structures.
4. Understand the fundamentals of operation of the main semiconductor electronic devices.
5. Understand the basic parameters of electronic devices, their performance, and limiting factors.
6. Understand the basic principles of electronic device operation with emphasis on bipolar transistors, and Unipolar devices.

SYLLABUS

UNIT–I
Conductors, Semiconductors, Silicon Crystal, Intrinsic Semiconductors, Doping of Semiconductor, majority carrier minority carrier Two Types of Extrinsic Semiconductors and their energy band diagram, Generation and recombination of charges, diffusion and drift currents flow in semiconductor. Hall – Effect and its Application.

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UNIT–II

Band structure of PN Junction diode, Volt – Amp. Characteristics, Temperature Dependence, Transition and Diffusion Capacitance of PN Junction Qualitative analysis only , Zener and Avalanche Breakdowns, Zener diode,Tunnel Diode, LED, Varactor Diode, Photo Diode. Applications: The diode as a circuit element, The Load line concept, The Piecewise linear diode model. Diode as rectifier, clipper and clamper. Zener diode as voltage regulator.

UNIT–III

Bipolar junction transistor - Basic operation, current components and equation. CB, CE and CCconfiguration, input and output characteristics, Early effect, region of operation, Biasing technique of CB, CC and CE configuration and biasing stability.

UNIT–IV

Amplifier Basics, Transistor as an amplifier, load line, Q-point and its selection criteria. Transistor at low frequency: frequency response, bandwidth, h-parameter analysis of CC, CB and CE configuration, simplified model, gain and impedance calculation of single stage amplifier.

UNIT–V

Field effect transistor- Construction, n channel and p channel, characteristics, parameters, Equivalent model and voltage gain, Enhancement and depletion MOSFET and its Characteristics, DC and AC analysis of FET in various configuration. Large Signal analysis and Power Amplifiers: Class A, Class B, Class AB, Class C, Class D, Transformer coupled and Push-Pull amplifier.

TEXT BOOKS:

1. Boylestad and Nashelsky, “Electronic Devices and Circuit Theory”, 11th Edition, Pearson, 2013.
2. Sedra and Smith, “Microelectronics”, 7th Edition, Oxford Press.

REFERENCES:

1. Ben G. Streetman, Sanjay Bannerjee, “Solid State Electronic Devices”, 6th Edition, Pearson Prentice Hall, 2006.
2. David A Bell, “Electronic Devices and Circuits”, Oxford, 2008.
3. Millman, Halkias 7 Parikh, “Integrated electronics”, 2nd Edition, TMH, 2017.
4. Donald A Neamen, “Electronic Circuits Analysis and Design”, 3rd Edition, McGraw Hill, 2006.
5. Robert F. Pierret, “Semiconductor Device Fundamentals”, 1st Edition, Pearson, 2006.

LIST OF EXPERIMENTS:

1. To determine and analyze the V-I characteristics of PN Junction diode.
2. To determine and analyze the V-I characteristic of Zener diode and its load regulation capability.
3. To design clipper and clamper circuits.
4. To determine input and output characteristics of transistor amplifiers in CE configurations.
5. To determine input and output characteristics of transistor amplifiers in CC configurations.

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6. To determine input and output characteristics of transistor amplifiers in CB configurations.
7. To determine the frequency response of CE amplifier, direct coupled and RC coupled amplifier.
8. To determine Drain and Transfer Characteristics of JFET Amplifier.
9. To determine Drain and Transfer Characteristics of MOSFET Amplifier.
10. To determine characteristics of class A and B power amplifiers.

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS305		Object Oriented Programming	60	20	20	30	20	3	1	2	5

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES
1. To explain abstract data types, classes and different types of objects.
2. To distinguish among types of relationships between classes and express the associations diagrammatically.
3. To analyze the public, protected and private modes of inheriting the classes.
4. To demonstrate the overloading of functions and operators to grant them a different meaning.
5. To formulate programs using the concepts of object oriented programming languages.

COURSE OUTCOMES
Upon the completion of the course, students will be able to:
1. Identify and describe the components of object-oriented technology and justify their relevance.
2. Classify and model the relationships/associations that exist between classes and objects.
3. Perform experiments on inheritance by implementing code reusability and polymorphism by overloading the functions as well as operators.
4. Develop programs for real world scenarios using the object oriented approach.

SYLLABUS

UNIT–I
Abstract data types, Objects and classes, Attributes and Methods, Objects as software units, Encapsulation and Information hiding, Objects instantiations and interactions, Object lifetime, Static and dynamic objects, global and local objects, Metaclass, Modeling the real world objects.

UNIT–II
Relationships between classes, Association of objects, Types of Association, Recursive Association, Multiplicities, Navigability, Namedassociation, Aggregation of objects. Types of Aggregation, Delegation, Modeling Association and Aggregation.

UNIT–III

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Inheritance and Polymorphism, Types of polymorphism, Static and dynamic polymorphism, Operator and Method overloading, Inherited methods, Redefined methods, the protected interface, Abstract methods and classes, Public and protected properties, Private operations, Disinheritance, Multiple inheritance.

UNIT–IV
Container Classes, Container types, typical functions and iterator methods, Heterogeneous containers, Persistent objects, stream, and files, Object oriented programming languages.

UNIT–V
Study of C++/Java as Object-oriented programming language.

TEXT BOOKS:

REFERENCES:
1. David Parsons; Object oriented programming with C++; BPB publication.
2. Object oriented programming in C++ by Robert Lafore: Galgotia.
3. Balagurusamy; Object oriented programming with C++; TMH.
4. Java Complete Reference: Herbert Schildt, Mc Graw Hill.
5. Hubbard; Programming in C++ (Schaum); TMH.
6. Mastering C++ by Venugopal, TMH.

LIST OF EXPERIMENTS:
Programming assignments may be given to students so that they can better understand the concepts of object oriented programming such as objects, classes, class-relationships, association, aggregation, inheritance, polymorphism etc.

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			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCC306		Web and Mobile Application Lab	-	-	-	-	50	-	-	2	1

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
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COURSE OBJECTIVES
1. Describe those aspects of mobile programming that make it unique from programming for other platforms,
2. Critique mobile applications on their design pros and cons,
3. Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces.
4. Program mobile applications for the Android operating system that use basic and advanced phone features, and
5. Deploy applications to the Android marketplace for distribution.

COURSE OUTCOMES
1. Students will understand aspects of mobile.
2. Students will be able to develop rapid prototyping techniques to design and develop sophisticated mobile interfaces.
3. Students will be able to create Program mobile applications for the Android operating system that use basic and advanced phone features, and
4. Students will be able to build applications to the Android marketplace for distribution.

SYLLABUS

UNIT–I
Introduction to WWW, Internet, Evolution of Markup Languages - SGML, HTML, XML and XHTML, WML,CSS, javascript, Features of HTML5. Introduction to mobile devices and Administrative, Mobile devices vs. desktop devices - ARM and intel architectures - Power Management - Screen resolution - Touch interfaces - Application deployment - App Store, Google Play, Windows Store - Development environments introduction: XCode , Eclipse , VS2012 , PhoneGAP, etc - Native vs. web applications.

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UNIT–II
Study different open source frameworks, tools and basic languages used for mobile development. Basic working knowledge on various editors, tools used in mobile development.

UNIT–III
Mobile OS Architectures: Comparing and Contrasting architectures of all three – Android, iOS and Windows - Underlying OS (Darwin vs. Linux vs. Win 8) - Kernel structure and native level programming - Runtime (Objective-C vs. Dalvik vs. WinRT) - Approaches to power management – Security.

UNIT–IV
Introduction to Android Development Environment, Android/iOS/Win 8 Survival and basic apps, Mobile frameworks, Tools, Native level programming on Android o Low-level programming on (jailbroken) iOS o Windows low level APIs.

UNIT–V
Introduction: Basic Python programming, Objective c programming, Loops, functions, exception handling.

TEXT BOOKS:
1. Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides).
2. Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps.

REFERENCES:
1. http://www.tutorialspoint.com/android/
2. http://rypress.com/tutorials/objective-c/index
3. http://www.programiz.com/python-programming

LIST OF EXPERIMENTS:
1. Write a html program for Creation of web site with forms, frames, links, tables etc
2. Design a web site using HTML and DHTML. Use Basic text Formatting, Images,
3. Create a script that asks the user for a name, then greets the user with “Hello” and the user name on the page
4. Create a script that collects numbers from a page and then adds them up and prints them to a blank field on the page.
6. Using CSS for creating web sites
7. Creating simple application to access data base using JDBC Formatting HTML with CSS.
8. Program for manipulating Databases and SQL.
9. Basic android programs.
10. Basic programs in objective c.
11. Programs in eclipse tools.

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BTCS307		Advanced Java	-	-	-	30	20	-	-	2	1

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P - Practical; C - Credit;
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COURSE OBJECTIVES
1. Using Graphics, Animations and Multithreading for designing Simulation and Game based applications.
2. Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing and Event Handling.
3. Design and develop Web applications
4. Designing Enterprise based applications by encapsulating an application's business logic.
5. Designing applications using pre-built frameworks.

COURSE OUTCOMES
Upon completion of this course, students will be able to do the following:
1. Use various tools, and Validation techniques, use of different templates available in IntelliJ IDEA, Implementation and testing strategies in real time applications.
2. Learn the Internet Programming, using Java Applets
3. Create a full set of UI widgets and other components, including windows, menus, buttons, checkboxes, text fields, scrollbars and scrolling lists, using Abstract Windowing Toolkit (AWT) & Swings
4. learn to access database through Java programs, using Java Data Base Connectivity (JDBC)
5. Create dynamic web pages, using Servlets and JSP
6. Make a resusable software component, using Java Bean
7. Invoke the remote methods in an application using Remote Method Invocation (RMI)

SYLLABUS

UNIT–I
Java Networking :Network Basics and Socket overview, TCP/IP client sockets, URL, TCP/IP server sockets, Datagrams, java.net package Socket, ServerSocket, InetAddress, URL, URLConnection.

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UNIT–II

JDBC Programming :The JDBC Connectivity Model, Database Programming: Connecting to the Database, Creating a SQL Query, Getting the Results, Updating Database Data, Error Checking and the SQLException Class, The SQLWarning Class, The Statement Interface, PreparedStatement, CallableStatement The ResultSet Interface, Updatable Result Sets, JDBC Types, Executing SQL Queries, ResultSetMetaData, Executing SQL Updates, Transaction Management.

UNIT–III

Servlet API and Overview : Servlet Model: Overview of Servlet, Servlet Life Cycle, HTTP Methods Structure and Deployment descriptor ServletContext and ServletConfig interface, Attributes in Servelt, Request Dispacher interface The Filter API: Filter, FilterChain, Filter Config Cookies and Session Management: Understanding state and session, Understanding Session Timeout and Session Tracking, URL Rewriting .

UNIT–IV

Java Server Pages : JSP Overview: The Problem with Servlets, Life Cycle of JSP Page, JSP Processing, JSP Application Design with MVC, Setting Up the JSP Environment ,JSP Directives, JSP Action, JSP Implicit Objects JSP Form Processing, JSP Session and Cookies Handling, JSP Session Tracking JSP Database Access, JSP Standard Tag Libraries, JSP Custom Tag, JSP Expression Language, JSP Exception Handling, JSP XML Processing

UNIT–V

Java Server Faces2.0 : Introduction to JSF, JSF request processing Life cycle, JSF Expression Language, JSF Standard Component, JSF Facelets Tag, JSF Convertor Tag, JSF Validation Tag, JSF Event Handling and Database Access, JSF Libraries: PrimeFaces

TEXT BOOKS:

1. Black Book “Java server programming” J2EE, 1st ed., Dream Tech Publishers, 2008. 3. Kathy walrath.”
2. Complete Reference J2EE by James Keogh mcgraw publication.
3. Professional Java Server Programming by Subrahmanyam Allamaraju, Cedric Buest Wiley Publication.
4. SCWCD, Matthew Scarpino, Hanumant Deshmukh, Jignesh Malavie, Manning publication
5. Core Java, Volume II: Advanced Features by Cay Horstmann and Gary Cornell Pearson Publication.

REFERENCES:

1. Java Server Faces in Action, Kito D. Mann, Manning Publication.
2. JDBC™ API Tutorial and Reference, Third Edition, Maydene Fisher, Jon Ellis, Jonathan Bruce, Addison Wesley.
3. Beginning JSP, JSF andTomcat, Giulio Zambon, Apress.

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4. JSF2.0 CookBook, Anghel Leonard, PACKT publication.
5. Head First Servlets and JSP by Bryan Basham, Kathy Sierra & Bert Bates, Publisher: O'Reilly Media.

LIST OF EXPERIMENTS:

1. Create chat application using either TCP or UDP protocol.
2. Implement TCP Server for transferring files using Socket and ServerSocket
3. Implement any one sorting algorithm using TCP/UDP on Server application and Give Input On Client side and client should sorted output from server and display sorted on input side.
4. Implement Concurrent TCP Server programming in which more than one client can connect and communicate with Server for sending the string and server returns the reverse of string to each of client
5. Write RMI application where client supplies two numbers and server response by summing it. Provide your custom security policy for this application.
6. Implement Student information system using JDBC and RMI.
7. Create Servlet file which contains following functions:
    1. Connect 2. Create Database 3. Create Table 4. Insert Records into respective table 5. Update records of particular table of database 6. Delete Records from table. 7. Delete table and also database.
8. User can create a new database and also create new table under that database. Once database has been created then user can perform database operation by calling above functions. Use following Java Statement interface to implement program:
    1. Statement 2. Prepared statement 3. Callable statement.
9. Create Servlet file and study web descriptor file.
10. Create login form and perform state management using Cookies, Http Session and URL Rewriting.