

MOTHER TERESA WOMENS UNIVERSITY, KODAIKANAL
(AS PER TANSICHE RULES)

DEPARTMENT OF COMPUTER SCIENCE
P.G. Degree - M.Sc. Computer Science

I YEAR

SUB CODE Title of the Paper Marks

Core 1	Mathematical Foundation of Computer Science	100
Core 2	Advanced Programming in C&C++	100
Core 3	Computer Networks	100
Core 4	Data Structures and Computer Algorithm	100
Core 5	Relational Database Management Systems	100
Core 6	Web Technology	100
Core 7	Operating System	100
Core 8	Advanced Programming in C&C++ Lab	100
Core 9	RDBMS Lab	100
	Title of the Paper	Marks
SUB CODE		
Core 11	Advanced Programming in Java	100
Core 12	Data Mining	100
Core 13	Digital Image Processing	100
Core 14	Cryptography and Network Security	100
Core 15	Grid and Cloud Computing	100
Core 16	Software Project Management	100
Core 17	Mobile Computing	100
Core 18	Project	100

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Unit I:

Sets: Basic Concepts. Relations: Binary relations-Equivalence relations and partition. Functions: Different types of functions-Composition and Inverse, Recursive and hashing functions.

Unit II:

Partial Ordering Relations: Partially Ordered set: Representation of Poset-Hasse Diagram-LUB-GLB-well ordered set-meet and join of elements. Lattices as partially ordered sets: Definition and Basic Properties.

Unit III:

Mathematical Logic: Logical operators-Conjunction-Disjunction-Negation-Conditional and Biconditional-Truth tables-Equivalence formula-tautology-Methods of proof-Direct-Indirect-Contradiction-Equivalence and induction.

Unit IV:

Graph Theory: Basic terminology: Different types of graphs-Directed and undirected-Simple-Pseudo-Complete-Regular-Bipartite-Incidence and degree-Pendant and Isolated vertex and Null graph-Isomorphism-Sub graphs-Walk-Path and Circuit-Connected and disconnected graphs and components-operations on graphs-Euler Graphs-Hamiltonian circuits and paths.

Unit V:

Trees: Basic properties-Rooted and binary trees- Binary Search Trees-Tree traversals-Pre order-In order- Post order-Spanning trees-Prims and Kruskals algorithm.

TEXT BOOKS:

1. Discrete Mathematical Structures with Applications to Computer Science by J.P.Tremblay and R.Manohar.Tata McGraw-Hill Publications, 1997.
2. Graph Theory by Narsingh Deo, Prentice-Hall of India Publications, 2004.

REFERENCE BOOKS:

1. Theory of Computer Science (Automata Languages and Computation), Second Edition, Mishra K.L.P., N.Chandrasekharan, Prentice Hall of India Publications.
2. Discrete Mathematical Structures, Theory and Applications, D.S.Malik, Thomson Learning, First Edition.
3. Discrete Mathematics for Computer science, Haggard Thomson Learning, First Edition.
4. Discrete Mathematics and Its Applications by Kenneth H Rosen. Tata McGrawHill Publications
5. Mathematical Foundation of Computer science by Y.N Sings. New Age International Publishers.
6. Bernard Kolman, Robert. C. Busby & Sharon Ross, “ Discrete Mathematical Structures” Prentice Hall of India, 2001

PROGRAMMING IN C & C++

Unit I:

Fundamentals of C - Declarations-Variables – Data Types – Expressions – Relational and Logical operations – Control Statements – Conditional Statements – Arrays – Strings

Unit II:

Pointers - Functions: user defined – Local and Global specification – Boolean Functions – Friend Functions – Standard input and output – Files.

Unit III:

Principles of Object-Oriented Programming, What is C++? – Applications of C++ - C++ Statements – Structure of C++ Program, Tokens, Expressions and Control Structures – Functions in C++ - Classes and Objects.

Unit IV:

Constructors and Destructors – Type Conversions – Inheritance: Extending Classes.

Unit V:

Pointers, Virtual Functions and Polymorphism – Operator Overloading, Managing Console I/O Operations, Files

Reference Books

1. Byron S.Gotfried, “Programming with C”, McGraw Hill Publication
2. E.Balagurusamy, “Programming in ANSI C” Tata McGraw Hill, 2002
3. Herbert Schildt, “Teach Yourself C++”, III Edition, Tata McGraw Hill 5th Edition, 2000
4. E.Balagurusamy, “Programming in ANSI C++” Tata McGraw Hill, 2002

ADVANCED PROGRAMMING IN JAVA

UNIT I

Swing and GUI Components : The Origin of Swing – Creating Windows in Swing – JButton – JLabel – JToggleButton – JCheckBox – JRadioButton – JList – JScrollPane – JScrollBar – JTextField – JPasswordField.

UNIT II

JTextArea – JComboBox – JMenuItem, JMenu and JMenuBar – JDialog – JOptionPane – JFileChooser- JProgressBar – Layout Managers.

UNIT III

JDBC: JDBC AND ODBC – Using a JDBC – Driver Manager – Connection Interface – Statement Interface – Prepared Statement Interface – Callable Statement Interface –Result Set Interface.

UNIT IV

Servlets : Servlets – The HTML – Interface Servlet – HttpServlet Class – Servlet Programs – Servlet with I/O File – Servlet with JDBC – Session Handling.

UNIT V

JavaServerPages(JSP): JSP Syntax and Semantics – Directives – Comments – Expressions – Scriptlets – Declaratives – Standard Actions.

TEXT BOOKS:

1. Advanced Programming in JAVA2, K.Somasundaram, Jaico Publishing House, Mumbai, 2008, Chapter 19, 21, 22.
2. JSP 2.0, Phil Hanna, TMH, New Delhi,2003, Chapter - 5.

REFERENCE BOOKS:

1. Java2 :The Complete Reference – Fifth Edition, Herbert Schildt, TMH Publishing Company, New Delhi, 2007.
2. Java2 Programming, Black Book, Steven Holzener et al, Paraglyph Press / Dream Tech Press, New Delhi, 2005.
3. Tech Yourself J2EE in 21 Days, Martin Bond et al, Pearson Education, 2nd Ed, 2005

COMPUTER NETWORKS

UNIT I

Introduction: User - Hardware – Software – Reference Models – Example Network – Example Data Communication service – Network Standardization.

UNIT II

Physical Layer: Transmission Media – Wireless Transmission – The Telephone system – Cellular radio – Communication satellites.

UNIT III

Data Link Layer & Medium Access Layer – D.L.L.Design Issues – Elementary Data link protocols – Multiple Access Protocols – Ethernet, Token bus, Token ring standards.

UNIT IV

Networks Layer & Transport Layer: N.W.L. Design Issues – Routing - Algorithms – T.P.L. Design Issues – Elements of T.P.L.Protocol.

UNIT V

Application Layer: Network Security – E-Mail – Use Net news – W.W.W – Multimedia.

Text Book

1. Computer Networks by Andrew S.Tenenbaum, PHI, Third edition, 1996.

Reference Book

1. Computer Networks - Fourouzan

DATA STRUCTURES AND COMPUTER ALGORITHM

Unit I:

Linear Data Structure- concept and terminology – storage structure of arrays – structures and array of structures – stack definition operating – application of stack – recursion – polish expressions – polish notations – queues – pointers and linked allocation – linked linear list –circular linked – double linear list – application of linear linked (linked dictionary).

Unit II:

None linear data structure-tree-threaded storage representation of binary tree-definition and concept of binary trees-representation of binary trees-heap-priority queue-expression tree-tree traversals-BST-optimal BST-threaded binary tree-Height balanced tree-Weight balanced tree-implementation-general tree-to binary tree conversion-game tree-B-tree-Splay tree-top down & bottom up splay trees-red black tree-AVL tree.

Unit III:

Sorting techniques: Design of sorting algorithms: Bubble sort, selection sort, insertion sort ,shell sort, merge sort, heap sort ,radix sort, topological sort, external sorting: Balanced multi-way merging , poly-phase merging-analysis of sorting algorithms-comparison of sorting.

Unit IV:

Searching Techniques: Design of Searching algorithms: sequential search, binary search, binary tree search – hashing : hash functions, open hashing, closed hashing, bucket hashing, collision, linear probing – radix searching – digital search trees, radix search tree, multi-way radix searching – external searching: Indexed – sequential access, B-Trees. Extendible hashing, virtual memory, analysis of searching algorithms – comparison of searching algorithms.

Unit V:

Algorithm analysis Techniques: Introduction – analysis of algorithms – space complexity – time complexity – best, worst and average cases – asymptotic notations – upper

bounds and lower bounds – practical complexity – performance measurement – recursion – summation techniques – recurrence relation – estimating upper and lower bounds – expanding recurrence – amortized analysis.

References:

1. Alfred V.Aho, John E.Hopcroft & Jeffrey D.Ullman, “Data Structures & Algorithms” Addison Wesley.
2. Shani, Data Structures, Algorithms and application in C++, Mc Graw Hill, 1998.
3. Trembley and Sorenson, “An Introduction to data structure with application”, II Edition.
4. Robert L.Kurse, “Data Structure and Program Design”, Prentice Hall of India, 3rd Edition.

WEB TECHNOLOGY

Unit I:

Introduction-What is the internet-History of internet-internet services and accessibility-uses of the internet-protocols-web concept-internet standards-internet protocols: Introduction-Internet protocols-Host name-Internet application-Application protocols-HTML: Introduction-SGML-Body section-HTML forms.

Unit II:

Java network programming: Introduction-UDP/IP-TCP/IP communications-I / Ostreams-Sockets-multicast sockets-remote method-innovation-protocol handler-content handler. java script: Introduction language elements-objects of java script-other objects.

Unit III:

Dynamic HTML: Introduction-Cascading Style Sheets-DHTML document-objects model and collection-event handling-filter and transitions-Data binding-Extensible Markup Language: Introduction-HTML vs XML-syntax of the XML document-XML attributes-DTD elements-Data attributes

Unit IV:

Common Gateway Interface(CGI): Introduction-server-browser interaction-CGI script structure-CGI PM module - Servlets: Introduction-advantages of servlets over CGI-Installing servlet - servlet life style - servlet API-A simple servlet - handling HTTP get request-handling HTTP post request-cookies-session tracking.

Unit V:

Java Server Pages (JSP): Introduction-Components of JSP-Reading Request Information-Retrieving the Data Posted from a HTML File to a JSP File-JSP Sessions-Active Server Pages(ASP): Introduction-Processing of ASP Scripts with Forms-Variables and Constructs-Subroutines-ASP Objects.

TEXT BOOK:

- 1." Web Technology" N.P.Gopalan, J.Akilandeswari, Prentice Hall of India, 2007

REFERENCE BOOK:

- 1." Web Technologies" A.A Puntambekar", Technical Publication, I Edition,2009 .

OPERATING SYSTEMS

Unit I:

Introduction : What is an operating system – Mainframe System – Desktop System – Multiprocessor systems – Distributed Systems – Clustered Systems – Real Time Systems- Hand held Systems-Features Migration – Computing Environments – Computer System Structures – Computer – System Operation – I/O Structure – Storage Structure – Storage Hierarchy – Hardware Protection – Network Structure .

Unit II

Processes: Process Concept- Process Scheduling-Operations on Processes-Co-operating Process- Inter process Communication – Communication in Client Server System . Threads: Overview – Multithreading Models – threading issues-Java threads. CPU Scheduling: Basic concepts-Scheduling criteria-Scheduling Algorithms – Process Synchronization: Background – The Critical-Section Problem – Synchronization hardware –Semaphores- Classic Problems of Synchronization-Critical Regions-Monitors.

Unit III

Deadlock: System Model – Dead lock Characterization-Methods of Handling Deadlocks-Deadlock Prevention – Deadlock avoidance – Deadlock detection –Recovery from Deadlock .Memory Management: Background –swapping Contiguous Memory allocation-Paging – Segmentation –Segmentation with paging. Virtual Memory: Background-Demand Paging – Process Creation – Page Replacement – Allocation of Frames-Thrashing -.

Unit IV

I/O Systems : Over view –I/O Hardware –Application I/o Interface –Kernel I/o Subsystem – Transforming I/O Hardware operations- streams .Mass Storage Structure : Disk Structure – Disk Scheduling –Disk Management – Swap Space –Swap Space Management – RAID Structure – Disk attachment – Stable Storage Implementation – Tertiary Storage Structure

Unit V

Case Studies : The Linux System and Windows XP

Text Book

Operating System Concepts – Silberschatz, Galvin, Gagne Sixth Edition WILEY –INDIA
2003

Reference Book

Operating System, H.M.Deital, Addison Wesley Publications

DOT NET PROGRAMMING

Unit I:

Introduction to .NET - Overview of .NET applications - .NET Framework – CTS – CLS – CLR - Managed Execution - Runtime Environment - Understanding assemblers - .NET security.

Unit II:

VB.NET: Introduction- The Foundation-Visual Basic.NET Mini Style Guide-Classes, Types and Objects: Point Types-Characters-Booleans-Literal Notation-Type Conversion-Methods: What is a Method: Types of Methods-Synchronous vs. Asynchronous Method Calls. Method Data - Method Access Characteristics - Properties

Unit III:

Types, Structures and Enumerations-Classes: Getting the Semantics Correct-The Classes are the System-Class Characteristics - Inheritance-The Inherited Members of Object - Aggregation and Composition: Reuse by Containment - Ending Inheritance with sealed Classes-Improved Performance with Shared Classes and Modules.

Unit IV:

Interfaces-Abstraction and Interfaces in Object-Oriented Software Design-Interfaces and Inheritance-Benefits-Implicit Interfaces-Explicit Interfaces-Introduction to Design and Implementation-Designing and Defining Interfaces-Implementing Interfaces-Exceptions: Exceptions-Handling Models-Recovering from Exception-Exception Statements.

Unit V:

Collections, Arrays and Other Data Structures: NET's Array and Collections Namespace-Stacks-Queues-Arrays-Array Class-Declaring and Initializing Arrays-Multidimensional Arrays-Jagged Arrays-Programming Against Arrays-Array Exception-Passing and Receiving Arrays to or from Methods.

TEXT BOOK:

1. Jeffrey R.Shapiro, "The Complete Reference Visual Basic .NET", TMH, 2002.

REFERENCE BOOKS :

1. Steven Holzner, "Visual Basic .Net Programming ", Dream Tech Press, 2011.

PROGRAMMING IN C & C++ - LAB

C Programs

1. [Swapping](#)
2. [Print floyd's triangle](#)
3. [Addition using pointers](#)
4. [Stack using array](#)
5. Searching using structures
 - a. [Linear search](#)
 - b. [Binary search](#)
6. Sorting
 - a. [Bubble sort](#)
 - b. [Insertion sort](#)
 - c. [Selection sort](#)
7. Matrix
 - a. [Add matrices](#)
 - b. [Subtract matrices](#)
 - c. [Transpose matrix](#)
8. [Merge two files](#)

C++ Programs

1. Perform Arithmetic operations using Classes and objects
2. Perform a Polynomial addition using Function overloading
3. Create a Student Mark list using Constructors
4. Program to print the given numbers into words using Friend function
5. Program to perform number processing using Inline function
6. Perform matrix addition and subtraction using Operator overloading
7. Perform String operation
8. Program to print the employee pay slip using Inheritance
9. Program to perform File operations

RDBMS LAB

1. **Creating Database**

Creating a Database

Creating a Table

Specifying Relational Data Types

Specifying Constraints

Creating Indexes

2. **Table and Record Handling**

INSERT statement

Using SELECT and INSERT together

DELETE- UPDATE- TRUNCATE statements

DROP- ALTER statements

3. **Retrieving Data from a Database**

The SELECT statement

Using the WHERE clause

Using Logical Operators in the WHERE clause

Using IN- BETWEEN- LIKE - ORDER BY- GROUP BY and HAVING

Clause

Using Aggregate Functions

Combining Tables Using JOINS

Subqueries

4.Database Management

Creating Views

Creating Column Aliases

Creating Database Users

Using GRANT and REVOKE

ADVANCED JAVA LAB

1. Implementation of Multi Threading and Exception Handling Concepts
2. Implementation of I/O Stream
3. Program in AWT, Swing and Events Handling.
4. Network Programming.
5. Program using JDBC
6. Implementation Servlets / JSP

Dot Net Lab

1. Create minimum two simple applications using controls. Eg: Calculator, Drawing Pictures using GDI, Animation and Trainer Kit.
2. Write a program to simulate MS – OFFICE word and Excel packages with minimum five features.
3. Develop minimum two database applications using ADO.Net.
Example:
 - i. Online Banking
 - ii. Online Shopping
 - iii. Online Recruitment System.
 - iv. Online Railway Reservation System.

The application should be developed with the option of navigation in between forms. For eg. The online Banking should be developed with the web pages to look into the account details, deposit and withdraw.

II Year

Data Mining

UNIT- I

Introduction - What is Data Mining - Data Mining definition - KDD vs. Data Mining - DBMS vs. Data Mining - DM Techniques - DM Application - **Data Warehousing**: Introduction - What is a Data Warehouse - Definition - Multidimensional data model - Data Warehousing Architecture - Data Warehouse Back end Process .

UNIT- II

Association Rules: Introduction - What is an association rule - Methods to discover association rule - A Priori Algorithm - Partition Algorithm - Pincer- Search Algorithm - Dynamic Item set Counting Algorithm - Rapid Association Rule Mining - Incremental Algorithm - Generalized Association Rule.

UNIT-III

Clustering Techniques: Introduction - Clustering Paradigms - Partitioning Algorithms- K-Medoid Algorithm – CLARANS - Hierarchical Clustering - DB SCAN - Categorical Clustering Algorithm - ROCK.

UNIT-IV

Decision Tree: Introduction - Decision Tree Construction Principle - Best Split - Splitting Indices - ID3 - C4.5 - **Rough set theory**: Introduction – Definition - Example - Reduct - Types of Reduct - Rule Extraction.

UNIT – V

Web Mining: Introduction - Web Mining - Web Content Mining - Web Structure Mining - Web Usage Mining - Text Mining - **Temporal and Spatial Data Mining**: Introduction - Temporal Association Rule - GSP Algorithm - Spatial Mining Task - Spatial Clustering.

TEXT BOOK

1. Arun K.Pujari, "Data Mining Techniques", Universities Press (India) Limited,2001.

REFERENCE BOOKS

1. Pang-Ning Tan, Michael Steinbach,Vipin Kumar, Introduction to Data Mining, Pearson, 2008
2. JiaweiHan, MichelineKamber, JianPei, "Data Mining Concepts and Techniques", Morgan Kaufmann Publishers an Imprint of Elsevier, 2012.

DIGITAL IMAGE PROCESSING

Unit I: Digital Image Fundamentals and Transforms

Introduction: What is Digital Image Processing-Elements of visual perception-Image sampling and quantization-Basic relationship between pixels-Introduction to Fourier Transform and DFT-Properties of 2D Fourier Transform-FFT.

Unit II: Intensity Transformation and Spatial Filtering

Spatial Domain Methods: Basic Grey Level Transformation-Histogram Equalization-Image Subtraction-Image averaging-Spatial filtering:Smoothing,Sharpening filters-Laplacian filters-Frequency Domain Filters: Smoothing-Sharpening filters-Homomorphic filtering.

Unit III: Image Restoration

Model of Image Degradation/restoration process-Noise models-Restoration in the presence of Noise only-Spatial filtering-Periodic Noise Reduction by frequency domain filtering-Inverse filtering- Constrained least mean square filtering.

Unit IV: Image Compression

Fundamentals: Coding Redundancy-Spatial and Temporal Redundancy-Irrelevant Information-Measuring Image Information-Some basic Compression Methods: LZW coding-Bit plane coding-Block Transform coding-Predictive coding-wavelet coding.

Unit V: Image Segmentation and Representation

Edge detection – Thresholding - Region based segmentation-Boundary representation: Chain codes-Polygonal approximation-Boundary segments-Boundary descriptors: Simple descriptors-Fourier descriptors-Regional descriptors-Simple descriptors-Texture.

TEXT BOOK:

1. Rafael C Gonzalez, Richard E Woods 3rd Edition, Digital Image Processing-Pearson Education 2011.

Reference Books:

1. William K Pratt, Digital Image Processing Jhon Willey (2001).
2. Image Processing Analysis and Machine Vision- Millman Sonka, Vaclav hlavac,Roger Boyle Broos/colic, Thompson Larniy(1999)
3. A.K.Jain,PHI,NewDelhi(1995)-Fundamentals of Digital Image Processing.

CRYPTOGRAPHY AND NETWORK SECURITY

UNIT- I

Introduction-Security Goal-Cryptography Attacks-Services and Mechanism –Techniques
-**Traditional Symmetric-Key Ciphers:** Introduction-Substitution Ciphers-Transposition
Cipher-Stream and Block Ciphers-Modern Symmetric-Key Ciphers-Modern Block Ciphers
-Modern Stream Ciphers.

UNIT- II

Data Encryption Standard: Introduction - DES Structure - DES Analysis -Security of
DES - Multiple DES-Advanced Encryption Standard - Introduction -Transformations - Key
Expansion-The AES Ciphers - Use of Modern Block Ciphers - Use of Stream Ciphers.

UNIT- III

Asymmetric-Key Cryptography: Introduction - RSA Cryptosystem - **Message
Integrity and Message Authentication:** Message Integrity - Random Oracle Model-Message
Authentication-Digital Signature.

UNIT- IV

Network Security - E-Mail - PGP - S/MIME - SSL Architecture - Four Protocols - SSL
Message Format-Transport Layer Security.

UNIT- V

Security at the Network Layer - Two Modes - Two Security Protocols - Security Policy
- Internet Key Exchange - System Security - Worms - Viruses -IDS-Firewalls.

TEXT BOOK

1. Cryptography and Network Security by Behrouz A.Forouzan , Debdeep Mukhopadhyay,
Mc Graw Hill Publications,2nd ed.

REFERENCE BOOK

1. Cryptography and Network Security by William Stallings, Pearson Publications, 5th edition.

COMPILER DESIGN

UNIT- I

Introduction to Compiling: Compilers - Analysis of Source Program - The Phases of a Compiler - Compiler Construction tool - **A Simple One-pass Compiler:** Overview Syntax Definition- Syntax Directed Translation –Parsing-Lexical Analysis.

UNIT- II

Lexical Analysis: The Role of the Lexical Analyzer - Input Buffering - Specification of Token - Recognition of Token - Finite Automata. **Syntax Analysis:** The Role of the Parser - Context - free grammars - Top down Parsing – Bottom-up Parsing.

UNIT-III

Syntax-Directed Translation: Syntax-Directed definitions-Construction of Syntax trees-L-attributed definitions-Top down translation-Bottom-up evaluation of inherited attributes. **Type Checking:** Type system-Specification of a simple type checker-Type conversion.

UNIT-IV

Intermediate code generation: Intermediate Language - Declaration - Assignment Statement - Boolean Expression - Case Statement-Back Batching - Procedure calls - **Code generation:** Issues in the design of a code generation - Run time storage management - Basic Blocks and flow graphs - A simple code generator - Register allocation and assignment

UNIT – V

Code optimization: Introduction - The Principle sources of optimization - Optimization of basic blocks - Loops in flow graphs - Introduction to global data - flow analysis - Iterative solution of data flow equations - code improving transformation - Data - flow analysis of structured flow graphs - Efficient data - flow algorithms.

TEXT BOOK

1. Compilers Principles, Techniques and Tools by Alfred V. Aho Ravi Sethi Jeffrey D.Ullman, Published by Pearson Education.

GRID AND CLOUD COMPUTING

UNIT I:

Concepts and Architecture: Introduction - Parallel and Distributed Computing - Cluster computing Grid computing - Anatomy and physiology of Grid - Review of web services – OGSA – WSRF

UNIT II :

GRID Monitoring : Grid Monitoring Architecture (GMA) - An overview of Grid Monitoring systems - Grid ICE – JAMM – MDS - Network Weather Service - R – GMA – Other Monitoring systems Ganglia and Grid Mon

UNIT III :

Grid security and Resource management : Grid Security - A Brief security primer – PRI - X509 Certificates - Grid security – Grid Scheduling and Resource management - Scheduling paradigms - Working principles of scheduling - A review of condor ,SGE, PBS and LSF - Grid scheduling with QoS

UNIT IV :

Examining the Value Proposition : Defining Cloud Computing, Assessing the Value Proposition, Understanding Cloud Architecture, Understanding Services and Applications by Type

UNIT V :

Using Platforms : Understanding Abstraction and Virtualization, Capacity Planning, Exploring Platform as a Service, Using Google Web Services, Using Amazon Web Services, Using Microsoft Cloud Services

TEXT BOOKS

1. The Grid : Core Technologies - Maozhen Li , Mark Baker - John Wiley & Sum 2005
2. Cloud Computing Bible - Barrie Sosinky - Wiley Publishing Inc , 2011

REFERENCE BOOKS

1. Grid Computing - Joshy Joseph & Craig Fellenstein - _Pearson Education, 2004
2. The Little Book of Cloud Computing - A New Street Executive Summary -
3. Lars Nielson - 2011 Edition

SOFTWARE PROJECT MANAGEMENT

Unit I:

Introduction to Software project management- Project evaluation and programme management.

Unit II:

Overview of Project Planning- Selection of appropriate project approach-.

Unit III:

Software effort estimation - Activity Planning-Risk Management.

Unit IV:

Resource Allocation- Monitoring and control-Managing contracts

Unit V:

Managing people in software environments-working in teams-Software quality

Text Book:

Software Project Management - Bob Hughes, Mike Cotterell, Rajib Mall- Fifth Edition McGraw Hill - 2002.

Reference Books:

1. Applied Software Project Management – Andrew Stellman and Jeniffer Greene – O’Reilly Media Inc., - 2006.
2. Quality Software Project Management - Robert T. Futrell, Donald F. Shafer, Linda Shafer – Prentice Hall – 2002.
3. Software project management in practice - Pankaj Jalote – Pearson Education - 2004.
4. Software project management: A real-world guide to success – Joel Henry - Pearson/Addison Wesley – 2004.

MOBILE COMPUTING

Unit I

Introduction: Mobility of Bits and Bytes-Wireless The beginning-Mobile computing-Dialog Control-Networks-Middleware and Gateways-Applications and Services-Developing Mobile Computing Applications –Security in Mobile Computing –Standards-why is it necessary-Standard Bodies-Players in the wireless space. **Mobile computing Architecture:** History of computers-History of Internet-Internet the Ubiquitous Network - Architecture for Mobile computing - Three-tier Architecture - Design considerations for mobile computing - mobile computing through Internet - Making existing applications mobile-enabled.

Unit II

Mobile Computing through Telephony: Evolution of Telephony - Multiple Access Procedures – mobile computing through telephone – developing an IVR Application - voice XML - Telephony Application Programming Interface. **Emerging Technologies:** Introduction - Bluetooth - radio Frequency Identification – wireless broadband - mobile IP - Internet Protocol version 6 - Java card.

Unit III

Global System for Mobile Communications: Global system for Mobile communications – GSM Architecture – GSM Entities – call routing in GSM – PLMN Interfaces – GSM address and Identifiers – Network aspects in GSM - GSM Frequency Allocation – Authentication and security. **General Packet Radio Service:** Introduction – GPRS and packet Data Network - GPRS Network operations – Data Services in GPRS – Applications for GPRS - Limitations of GPRS - Billing and charging in GPRS

Unit IV

Wireless Application Protocol: Introduction – WAP – MMS - GPRS applications. **CDMA AND 3G:** Introduction - Spread spectrum technology – IS95 – CDMA versus GSM – Wireless Data – Third Generation Networks – Applications on 3G

Unit V

Wireless LAN: Introduction – wireless LAN advantages – IEEE 802.11 standards – wireless LAN architecture – mobility in wireless LAN –deploying wireless LAN – Mobile adhoc Networks and sensor Networks – Wireless LAN Security – WiFi versus 3G - **Internet networks and Interworking:** Introduction – fundamentals of call processing – Intelligence in the networks – SS#7 signaling – IN Conceptual Model – softswitch – programmable networks – technologies and Interfaces for IN.

Books Prescribed:

1. Mobile Computing, Technology applications and Service creation, Asoke K Talukder, Roopa R Yavagal, Tata McGraw - Hill Publishing company New Delhi 2007.

Reference Books:

1. Mobile Communication – Jochen Schiller 2nd edition Pearson 2003.

Application Process of Mother Teresa Women's University Distance Education 2020: If Interested candidate can apply the application form through online mode as well as an offline mode for the courses offered by DDE as per their convenience. A prospectus with application form can be obtained in person from any one of the education centers. the completed application form should be submitted at the respective study center. Contact Details: Address: Attuvampatti, Dindigul District, Kodaikanal, Tamil Nadu 624101. Phone: 04542 243 977. Courses 2021-22. Mother Teresa Women's University is in Kodai, TN, India. It was established in 1984 and offers... See more of Mother Teresa Women's University, Kodaikanal on Facebook. Log In. or. Create New Account. See more of Mother Teresa Women's University, Kodaikanal on Facebook. Log In. Forgotten account? Mother Teresa Women's University is situated at Kodaikanal, a quiet hill station tucked away in the Palani hills of South India. This University was established in the year 1984 by the enactment of Tamil Nadu Act 15. This University aims to extend its service to women students of all communities. It strives for Academic Excellence and Personality Development and gives equal importance for promotion of employment prospects to young girls. Mother Teresa Women's University (MTWU) is a public university located in Kodaikanal, Tamil Nadu. It was established in the year 1984. The University has been accredited by NAAC with 'B' grade. It offers various PG and research programs in multiple disciplines. The university has also the Department of Distance Education in which it provides the variety of courses at distance mode. Admission to Mother Teresa University is done through merit list. It also accepts a valid score in TANCET for MBA admission. Check Mother Teresa University Admission. Mother Teresa University Results. The unive... Mother Teresa Womens University, Kodaikanal (MTWU) - Know all the details about MTWU courses offered, admission process, fee structure, ranking, student reviews, cut off, facilities and placements. In order to offer international education for women candidates, it houses a Tamil Nadu Common Wealth Mother Teresa Women's international centre. Location. MTWU is located at Attuvampatti, Kodaikanal in Tamil Nadu. Teni Railway Station is around 91 km away from the university. Coimbatore International Airport is around 181 km away from the varsity. Kodaikanal Bus Stand is around 6 km away from Mother Teresa Women's University and it takes about 18 minutes to reach MTWU from the bus depot via car/cab. Clubs, Committees and Societies.