SRI RAMAKRISHNA MISSION VIDYALAYA
COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS), COIMBATORE – 641 020.
M.C.A under Choice Based Credit System (CBCS) 2016-2017 Onwards
SYLLABUS

SEMESTER – I

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	INT	EXT	TOT
					MAX MARKS		
01	15PCA1C01	Core : Object Oriented Programming with C++	5	5	25	75	100
02	15PCA1C02	Core :Data structure using C++	5	5	25	75	100
03	15PCA1C03	Core :Relational Database Management System	4	4	25	75	100
04	15PCA1C04	Core :Fundamentals of Accounting	4	4	25	75	100
05	15PCA1CP1	Core Practical: C++ programming	4	2	40	60	100
06	15PCA1CP2	Core Practical : Data Structures using C++	4	2	40	60	100
07	15PCA1CP3	Core Practical: Relational Database Management System	4	2	40	60	100
		TOTAL	30	24			700

SEMESTER – II

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	INT	EXT	TOT
01	15PCA2C05	Core: Visual Programming (. Net)	5	4	25	75	100
02	15PCA2C06	Core: Computer Networks	5	4	25	75	100
03	15PCA2C07	Core :Software Engineering	4	4	25	75	100
04	15PCA2C08	Core :Multimedia -I (Photoshop and Illustrator)	4	4	25	75	100
05	15PCA2CP4	Core Practical : Visual Programming (.Net)	4	2	40	60	100
06	15PCA2CP5	Core Practical :Multimedia (Photoshop and Illustrator	4	2	40	60	100
07	15PCA2CP6	Core :Mini-project	4	4	25	75	100
		TOTAL	30	24			700

SEMESTER – III

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	INT	EXT	TOT
					MAX MARKS		
01	15PCA3C01	Core :Windows Application Development - C#.NET	5	4	25	75	100
02	15PCA3C02	Core :Open Source Application Development - Advanced Java-I	5	4	25	75	100
03	15PCA3C03	Core :Operating System	4	4	25	75	100
04	15PCA3CP1	Core Practical : Windows Application Development with C#.NET	4	3	40	60	100
05	15PCA3CP2	Core Practical :Open Source Application Development with Advanced Java-I	4	3	40	60	100
06	15PCA3CP3	Core Practical : Operating System	4	3	40	60	100
07	15PCA3CP4	Core :Mini- Project	4	3	25	75	100
		TOTAL	30	24			700

SEMESTER – IV

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	INT	EXT	TOT
					MAX MARKS		
01	15PCA4C04	Core : Web Applications Development - ASP.NET	5	4	25	75	100
02	15PCA4C05	Core :Multimedia- II (HTML5, Flash, Premiere and Audition)	5	4	25	75	100
03	15PCA4EL1	**Elective	4	3	25	75	100
04	15PCA4CP5	Core Practical : Developing Web Applications with ASP.NET	4	3	40	60	100
05	15PCA4EP1	**Elective Practical	4	3	40	60	100
06	15PCA4CP6	Core Practical: Multimedia-II (HTML5, Flash, Premiere and Audition)	4	3	40	60	100
07	15PCA4CP7	Core :Mini- Project	4	3	25	75	100
		TOTAL	30	23			700

SEMESTER – V

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	MAX MARKS		
					INT	EXT	TOT
01	15PCA5C06	Core :Open Source Application Development - PHP and MYSQL	5	4	25	75	100
02	15PCA5C07	Core :Open Source Application Development with Android and Content Management	5	4	25	75	100
03	15PCA5EL2	##Elective:	4	3	25	75	100
04	15PCA5CP8	Core Practical - Open source Application Development - PHP and MYSQL	4	3	40	60	100
05	15PCA5CP9	Core Practical : Open Source Application Development with Android and Content Management	4	3	40	60	100
06	15PCA5EP2	##Elective Practical	4	3	40	60	100
07	15PCA5CP10	Core : Mini- Project	4	3	25	75	100
		TOTAL	30	23			700

SEMESTER – VI

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	MAX MARKS		
					INT	EXT	TOT
01	15PCA6CPR	Project Work and Viva-Voce	20	20	160	240	400
		TOTAL	20	20	160	240	400

LIST OF ELECTIVES – (FOR SEMESTER – IV)

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	MAX MARKS		
					INT	EXT	TOT
01	15PCA4EL1	Elective: Dreamweaver, Wordpress And Joomla	4	3	25	75	100
02	15PCA4EL1	Elective: Open Source Application Development - Advanced Java -II	4	3	25	75	100
03	15PCA4EL1	Elective: Software Development Lifecycle Management	4	3	25	75	100
04	15PCA4EP1	Elective Practical : Dreamweaver, Wordpress And Joomla	4	3	25	75	100
05	15PCA4EP1	Elective Practical : Open Source Application Development - Advanced Java -II	4	3	40	60	100
06	15PCA4EP1	Elective Practical : Software Development Lifecycle Management	4	3	40	60	100

##LIST OF ELECTIVES – (FOR SEMESTER – V)

S.No	COURSE CODE	COURSE TITILE	HRS/WK	CREDITS	MAX MARKS		
					INT	EXT	TOT
01	15PCA5EL2	Elective: Software Building / Release and Testing Management	4	3	25	75	100
02	15PCA5EL2	Elective: Advanced File system Management and User Administration	4	3	25	75	100
03	15PCA5EL2	Elective: Data warehousing and Mining	4	3	25	75	100
04	15PCA5EP2	Elective Practical : Software Building / Release and Testing Management	4	3	25	75	100
05	15PCA5EP2	Elective Practical :Advanced File system Management and User Administration	4	3	40	60	100
06	15PCA5EP2	Elective Practical : Data warehousing and Mining	4	3	40	60	100

Total Marks   :   3900

Total Credits   :   140

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core: Object Oriented Programming With C ++   **Subject** Code: 15PCA1C01

Year : I   **Semester :** I

 5 Hours/Week   **5 Credits**

Unit - I

Principles of Object Oriented Programming – Software Evaluation – OOP Paradigm – Basic concepts of OOP – Benefits of OOP – Object Oriented languages – Applications of OOP. **Pages :(1-14)**

Unit - II

Introduction to C++ - C++ Data types – Token, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control structures in C++, Functions in C++, Main function & Function Prototyping – Call by Reference – Call by Value – Return by Reference – Return by Value – Inline Functions – Friends Functions & Classes. **Pages :(35-90)**

Unit - III

Classes and Objects: Constructors and Destructors and Operator Overloading and type conversions.**Pages:(96-187)**

Unit - IV

Inheritance: Single Inheritance-Multilevel Inheritance –Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance. Pointer – Virtual functions and Polymorphism – Managing console I/O operations.**Pages:(201-281)**

Unit - V

Working with Files: Classes for file stream operations – opening and closing file-End-file detection-File pointers-updating a File error handling during file Operations- Command-line arguments.**Pages:(323-350)**   Templates and Exception Handling: Class Templates-Function Templates – Member Function Templates- Type Template Arguments – Non Type Template type arguments – Exception Handling.**Pages:(359-374)**

TEXT BOOK:

1. E.Balagurusamy, ”Object Oriented Programming with C++“, 2nd Edition, Tata McGraw Hill Publication **,** 2002.

REFERENCE BOOK:

1. Herbert Schildt,” C++ FROM THE GROUND UP “ Osborne MGH **,** 2002.

2. Yashant Kanetkar **, “**C++” **,**2002.

3. Herbert Schildt,”C++ The Complete Reference”,Osborne MGH, 2003.

4. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core : Data Structures using C++   **Subject Code:** 15PCA1C02

Year : I   **Semester :** I

5 **Hours/Week**   5 **Credits**

Unit - I

Arrays: Concepts – Ordered List – Sparse Matrices- representation of arrays. Stack and Queues: Fundamentals – a mazing problem - evaluation of expressions– Multiple Stacks and Queues.   **[Pages: 40 – 100]**

Unit - II

Linked Lists: Singly Linked List - Linked Stacks and Queues - The storage pool - Polynomial addition-More on linked lists - Equivalence relations - Spares Matrices. Doubly Linked Lists and dynamic storage management: Doubly linked lists - Dynamic Storage Management –Generalized list - Garbage Collection and Compaction.
[Pages: 106 - 182]

Unit - III

Trees: Basic Terminology - Binary Trees - Binary Tree Representations - Binary Tree Traversal –More on binary trees - Threaded Binary Trees – Binary Tree representation of trees - Application of Trees: Set representation – Decision trees.
[Page No: 218 - 259]

Graphs: Terminology and Representations – Traversal - Connected Components and Spanning Trees - Shortest Paths – Transitive Closure.   **[Page No: 282 - 309]**

Unit - IV

Internal sorting: Insertion Sort – Quick sort – Merge Sort - Heaps sort. **[Page No: 335 - 359]** External Sorting: Storage Devices - Sorting with Disks – Sorting with Tapes.**[Page No: 382 - 419]**
Symbol tables: Static Tree tables – Dynamic Tree Tables – Hash Tables. **[Page No: 422 - 469]**

Unit - V

Files: Files, Queries & sequential Organizations. Index Techniques: Cylinder-Surface Indexing – Hashed Indexes – Tree Indexing – B trees. File Organizations: Sequential Organization (ISAM)- Random File Organization – Linked Organization –Inverted Files – Cellular Partitions – Storage Management.   **[Page No: 478 - 535]**

TEXT BOOKS:

1. Ellis Horowitz & Sartaj Sahani **,"** Fundamentals of Data Structures", Galgotia Book source, 2002.

REFERENCE BOOK:

1. Tremblay & Sorenson "An Introduction to Data structures with Applications", 2nd Edition, Tata Mc_Graw Hill Company, 2002.
2. Robert Sedgewick **"**Algorithms in C" Addison Wesley, 2001.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core: Relational Database Management Systems **Subject :** 15PCA1C03

Year : I   **Semester :** II

 4 **Hours/Week**   4 **Credits**

Unit - I

Introduction to Database Systems - Purpose of Database Systems - View of Data - Data Models - Database Languages - Transaction Management - Storage Management - Database Administrator - Database Users – Overall System Structure. **(1-21)**
Entity-Relationship Model - Basic Concepts - Design Issues - Mapping Constraints - Keys - Entity Relationship Diagram - Weak Entity Sets - Design of an E-R Database Schema - Reduction of an E-R Schema to Tables. **(27-68)**

Unit - II

     Relational Model - Structure of Relational Databases - The Relational Algebra - The Relational Calculus - Extended Relational Algebra Operations -Modification of the Database - Views. **(79-125)**
     Relational Database Design - Pitfalls in Relational Database Design- Decomposition - Normalization Using Functional Dependencies - Normalization Using Multi valued Dependencies - Normalization Using Join Dependencies. **(257-293)**

 Unit - III

     Distributed Database Systems: Introduction **(1-23)** – Distributed DBMS Architecture: DBMS standardization – Achitectural Models fro Distributed DBMS's – Distributed DBMS Architecture **(75-96)** - Distributed Database Design: Distribution Design Issues **(107-111)** – Query Decomposition and Data Localization**(203-223)** – Introduction to Transaction Management.**(274-296)**

Unit - IV

     Object-Oriented Databases - The Object-Oriented Data Model - Object-Oriented Languages - Persistent Programming Languages - Persistent C++ Systems.**(307—330)**
     Object-Relational Databases - Nested Relations - Complex Types and Object Orientation - Querying with Complex Types - Creation of Complex Values and Objects - Comparison of Object-Oriented and Object-Relational Databases.**(335-357)**

Unit - V

     ORACLE 9i – Introduction - oracle data types – Create table command- Viewing data in tables – Eliminating Duplicate rows , Sorting data, Create a table from a table, delete operations - Update, Modify ,Rename, Truncate, Destroying tables**(113-130)** – Oracle Functions: Aggregate functions (Group)- Single Row functions (Scalar): String , Numeric , Conversion, Date Functions **(169 – 182)** – sub queries **(198-208)**– indexes – views - clusters– sequences **(239-247 , 251-261)**

     Introduction to PL/SQL – PL/SQL Block – Control structures**(320-332))**– Cursors**(336-345)** – Exception handling**(369-376)**– Procedures, Functions, Database Triggers, Types of Triggers**(379-387, 403-411)**

Text Books:

1. A.Silberschatz, H.Korth and S.Sudarsan," Database System Concepts",4thEdition**,**TATA McGraw Hill Inc., 2002 (UNIT I, II & IV).
2. M.Tamer Ozsu Patrick Valduriez, "Distributed database Systems",2nd Edition , Pearl Education, 1999(Unit III).
3. Ivan Bayross,"SQL,PL/SQL The Programming Language of Oracle"3nd EditionBPB Publications, 2007. (Unit V)

Reference Books:

1. Bipin.C.Desai," An Introduction to Databse System",West Publishing Company , 2002.
2. C.J.Date," An Introduction to Database Systems",Addision-Wesley,2002.
3. Raghu Ramakrishnan,"Database Management System", McGraw Hill Inc.,2000.
4. R. Elmasri and S.B.Navathe,"Fundamentals of Database Systems"The Benjamin Cummings publishing Company Inc, 2002.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core Practical: C++ programming   **Subject Code:** 15PCA1CP1

Year : I   **Semester :** II

 4 **Hours/Week**   2 **Credits**

1. Write a C++ program for Conversion of ID array into all possible 2 D array.

2. Write a C++ program to express a given number as a product of primes.

3. Write a C++ program to find the maximum and minimum element in each of a m*n matrix and its position.

4. Write a C++ program for matrices multiplication, addition and subtraction.

5. Write a C++ program for multiplying to Matrices and multiplying a matrix with a constant using function overloading.

6. Write a C++ program for complex numbers arithmetic using functions.

7. Write a C++ program for complex numbers arithmetic using operator overloading.

8. Write a C++ program to convert the given 2 set of times calculated as day, hour, minutes and seconds.

9. Write a C++ program to count number of working days with day and dates in calendar.

10. Write a C++ program for Binary Search.

11. Write a C++ program for Correlation.

12. Write a C++ program for Regression.

13. Write a C++ program for Variance, Standard and Mean Deviations.

14. Write a C++ program for String concatenation using Dynamic Constructors

15. Write a C++ program to add two polynomials.

16. Write a C++ program to multiply to polynomials.

17. Write a C++ program for Sorting using Templates.

18. Write a C++ program for Count Vowels, constants, numbers and special characters in a given file.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core Practical : Data Structures using C++   **Subject Code:** 15PCA1CP2

Year : I   **Semester :** I

4 **Hours/Week**   2 **Credits**

1. Implementation of Arrays

   - Polynomial addition
   - Magic Square

2. Stack operation (PUSH & POP)

3. Application of Stack

   - Evaluation of Expression
   - Infix to postfix

4. Queue operation (ADD & DELETE)

5. Circular queue (ADD & DELETE)

6. Single linked list (CREATION,ADD,DELETE,SEARCH,SORT)

7. Circular linked list

8. Dynamic circular linked list

9. Tree (CREATION,ADD,DELETE,SEARCH)

10. Tree Traversals(apply infix, postfix, prefix)

11. Binary trees(CREATION,ADD,DELETE,SEARCH)

12. Searching(Sequential search, Binary search)

13. Sorting(Insertion sort, Bubble sort, quick sort, merge sort heap sort)

Course : MCA

Course Title : Core Practical: Relational Database Management System

Subject Code: 15PCA1CP3

Year : I   **Semester :** I

 4 **Hours/Week**   2 **Credits**

Create the following Tables:

JOB

Job_ID	Function
667	CLERK
668	STAFF
669	ANALYST
670	SALESPERSON
671	MANAGER
672	PRESIDENT

LOCATION

Location_ID	Regional_Group
122	NEW YORK
123	DALLAS
124	CHICAGO
167	BOSTON

DEPARTMENT

Department_ID	Name	Location_ID
10	ACCOUNTING	122
20	RESEARCH	124
30	SALES	123
40	OPERATIONS	167

EMPLOYEE

EMPLOYEE_ID	LAST_NAME	FIRST_NAME	MIDDLE_NAME	JOB_ID	MANAGER_ID	HIREDATE	SALARY	COMM	DEPARTMENT_ID
7369	SMITH	JOHN	Q	667	7902	17-DEC-84	800	NULL	20
7499	ALLEN	KEVIN	J	670	7698	20-FEB-85	1600	300	30
7505	DOYLE	JEAN	K	671	7839	04-APR-85	2850	NULL	30
7506	DENNIS	LYNN	S	671	7839	15-MAY-85	2750	NULL	30
7507	BAKER	LESLIE	D	671	7839	10-JUN-85	2200	NULL	40
7521	WARK	CYNTHIA	D	670	7698	22-FEB-85	1250	500	30

Queries based on the above tables:

Order By Clause:

1. List out the employee id, last name in ascending order based on the employee id.
2. List out the employee id, name in descending order based on salary column
3. list out the employee details according to their last_name in ascending order and salaries in descending order
4. list out the employee details according to their last_name in ascending order and then on department_id in descending order.

Group By & Having Clause:

5. How many employees who are working in different departments wise in the organization

6. List out the department wise maximum salary, minimum salary, average salary of the employees

7. List out the job wise maximum salary, minimum salary, average salaries of the employees.

8. List out the no.of employees joined in every month in ascending order.

9. List out the no.of employees for each month and year, in the ascending order based on the year, month.

10. List out the department id having atleast four employees.

11. How many employees in January month.

12. How many employees who are joined in January or September month.

13. How many employees who are joined in 1985.

14. How many employees joined each month in 1985.

15. How many employees who are joined in March 1985.

16. Which is the department id, having greater than or equal to 3 employees joined in April 1985.

Simple join

17. How many employees who are working in sales department.

18. Which is the department having greater than or equal to 5 employees and display the department names in ascending order.

20. How many jobs in the organization with designations.

21. How many employees working in "New York".

Non – Equi Join:

22. Display employee details with salary grades.

23. List out the no. of employees on grade wise.

24. Display the employ salary grades and no. of employees between 2000 to 5000 range of salary.

Self Join:

25. Display the employee details with their manager names.

26. Display the employee details who earn more than their managers salaries.

27. Show the no. of employees working under every manager.

Outer Join:

28. Display employee details with all departments.

29. Display all employees in sales or operation departments.

30.Create a table named PASSENGER with the fields Ticket_number (Primary key), name, age, sex and fare. Rite a PL/SQL procedure to print the details of all the passengers

1. Create a Trigger to update quantity on hand in the product table when product has been sold. The product table contains the following fields PNO, Pname, PQOH. The Sales Table contains the following fields SNO, PNO,SQTY and SDATE.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

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Course : MCA

Course Title : Core: Visual Programming (. Net)   **Subject Code:** 15PCA2C05

Year : I   **Semester :** II

 5 Hours/Week   5 **Credits**

Unit - I

     Getting Started with Visual Basic 2010: Exploring the integrated development Environment **(3–13) -** Creating Your First VB Application **(13-21)** - Understanding the IDE Components **(21-29)** - **Handling Data:** Variables **(37-60)** - Variables as Objects **(60-74)** –Constants **(74)** – Arrays **(75-82)**.

Unit - II

     Visual Basic Programming Essentials: Flow-Control Statements **(85-102)** - Writing and Using Procedures **(102-106)** – Arguments **(106-110)** - **Basic Windows Controls:** The TextBox Control **(161-182)** - The ListBox, CheckedListBox, and ComboBox Controls **(182-197)** - The ScrollBar and TrackBar Controls **(197-200)** - **Working with Forms:** The Appearance of Forms **(203-242)** - Designing Menus (243-251)- **More Windows Controls:** The Common Dialog Controls **(254-269)** - The RichTextBox Control **(269-286)**- The TreeView and ListView Controls**(286-300)**.

Unit - III

     Working with Custom Classes and Controls: What Is a Class? **(306-308)** - Building the Minimal Class **(308-346)** - Operator Overloading **(347-352)** - **Applied Object-Oriented Programming**: Issues in Object-Oriented Programming **(387-400)** – Inheritance **(400- 407)** - Extension Methods **(407-411)** – Polymorphism **(411-417)** - Who Can Inherit What? **(418-429)**

Unit - IV

     Working with the .NET Framework: What Is the Framework? **(422-434)** - Using Snippets **(434-440)** - The IO Namespace **(440-446)** - Drawing and Painting **(446-454)** - The Image Class **(454-455)** – Printing **(455-460)** - Handling Strings and Characters **(463-475)** - Handling Dates and Time **(476-490)** - **Storing Data in Collections:** Collection Types **(500-510)** - The Dictionary Collection **(510-512)** - The Hash Table Collection **(512-517)** - The Sorted List Collection **(518-519)** - Other Collections **(519-527)**

Unit - V

     Programming with ADO.NET: The Basic Data-Access Classes **(662-684)** - **Developing Data-Driven Applications:** Storing Data in Datasets **(701-714)** – Using the Entity Data Model **(726-767**).

TEXT BOOK:

1. Evangelos petroustes," Mastering Microsoft Visual Basic 2010 ", Wiley-Dream Tech, 5th Edition, 2001.

REFERENCE BOOKS:

1. Evangelos petroustes," Mastering Visual basic.NET",BPB, First Edition, 2002.

2. Kuljit Kaur, Pooja Bembey,"Visual Basic.NET professional projects", Prentice Hall of India pvt. Ltd,2002.

3. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS
AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core: Computer Networks   **Subject Code:** 15PCA2C06

Year : I   **Semester :** II

 5 **Hours/Week**   5 **Credits**

Unit - I

  Introduction: Uses of computer networks - Network hardware -Network software - The OSI Reference model **(1 - 41)** – Example networks. **(49 - 71)**.**Physical Layer:** Guided Transmission Media: Magnetic Media - Twisted pair - Coaxial cable - Fiber optics. **(90 - 99).** Wireless Transmission: The Electromagnetic spectrum – Radio transmission – Microwave transmission – Infrared and Millimeter waves – Light wave transmission. **(100 - 108).** The Mobile Telephone system. **(152 - 169).**

  Data link Layer : Data link Layer Design Issues : Services Provided to Network Layer - Framing - Error control - flow control - Error Detection and Correction : Error Correcting Codes - Error Detecting Codes - Elementary Data link Protocols : An Unrestricted Simplex Protocol - A Simplex Stop and Wait Protocol - A Simplex Protocol for a noisy Channel. **(183 - 211)**.

Unit - II

  Network Layer: Network Layer Design Issues - Services provided to the Transport Layer. **(343 -345)**.
  Routing Algorithm: The Optimality Principle - Shortest path routing – Flooding. **(350 -357)**. Hierarchical routing - Broadcast routing- Multicast routing. **(366 -372)**
  Congestion Control Algorithms : General Principles of Congestion Control - Congestion Prevention Policies – Congestion control in Datagram subnets – Load shedding – Jitter Control**. (384 - 396)**. **Transport Layer:** The Transport Service: Services provided to the Upper layers - Transport Service Primitives. **(481 - 486).** Elements of Transport Protocols: Addressing – Connection Establishment – Connection Release - Flow Control and Buffering – Multiplexing - Crash Recovery. **(492 -513).**

Unit – III

  Introduction to Ethernet –Ethernet sublayer – MAC address structure**(255-258)**-Ethernet Frame Structure – Frame Fields **(262-265)**- Ethernet transmission **(271)** - Collision domain and Broadcast domain-layer 2 broadcaste - network segment **(290-303)-**Application Layer : Protocols**(377-378)** – IP Address- Decimal to Binary conversion- IP Address Classes- Reserved IP Addresses – Public and Private address –Introduction to subnetting – Ipv6-ARP **(386-411)**

Unit -IV

  WAN Device- WAN Standard **(515-517)** - Router startup sequence system configuration dialog –setting up global parameter **(554-559)**- Hyper terminal –logging into the router –help function – editing command –command History - **(563-573)**-Router configuration – configuration modes – configuring a router name – configuring interface **(587-573)**- Backup – password Recovery **(607-613)** -Static Routing - default routing – verify and troubleshoot static routing -dynamic routing **(681 -704)**.

Unit - V

RIP Features- IP Classless command – RIP Configuration –Verifying and Troubleshooting RIP- load balancing with RIP **(729-741)**- configuring IGRP –Troubleshooting IGRP **(744-753)**-ICMP-Error report and Correction –Unreachable networks-ICMP Message Format **(762-772)**-ACL – Create ACL – Wild Card Mask – Standard and Extended ACL –Named ACL –Firewall – Using ACL with Firewall –Restricting Virtual Terminal Access –Verifying A CL **(841-871)**

Text Book:

1. Andrew S Tanenbaum **" Computer Networks"**, Prentice Hall of India, 4th Edition 2006.

2. CCNA 1 and 2 Companion guide, year 2003 , "Cisco Networking Academy " Pearson Education **(UNIT III,IV,V)**

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core : Software Engineering   **Subject Code:** 15PCA2C07

Year : I   **Semester :** II

 4 **Hours/Week**   4 **Credits**

Unit - I

The Evolving role of software – software – Legacy software – software Myths **(34-47)** – Software Engineering - A Layered Technology – A process framework – Personal and Team process Models **(53-71)**.

Unit - II

Linear sequential Models – Software Process Model – Evolutionary Process Model **(77-88)** – Computer Based System – The System Engineering Hierarchy – System Modeling. **(155-161 &164-170)**

Unit - III

Requirement Engineering Tasks **(176-180)** – Developing Use-Cases – Building the analysis Model - Negotiating Requirements – Validating Requirements **(191-204)** Requirement Analysis – Data Modeling Concepts – Object Oriented Analysis **(208-218).**

Unit - IV

Design Concepts – The Design Model - Pattern Based software design **(259-282)**– Architectural styles and Patterns – Architectural Design – Mapping Dataflow into a software architecture (**291-320)**.

Unit - V

A Strategic Approach to software Testing **(387-393)** – The strategies for conventional software **(394-404)** – Validation Testing – System Testing **(406-411)** – Software Testing Fundamentals – Basis Path Testing – control structure testing - Block Box Testing-Case studies **(421-442)**

TEXT BOOKS:

1. Roger S.Pressman"Software Engineering A Practitioner's Approach ",6th Edition.

REFERENCE BOOKS:

1. Peter A.N.G.& Reymond T. Yen ,"Modern Software Engineering", Van Nostrand,1990.
2. Staff, Ted J.Alan J.PAulim ,"Software Reusability", Acadmic press**,** 1989.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core :Multimedia -I (Photoshop and Illustrator)   **Subject Code:** 15PCA2C08

Year : I   **Semester :** II

4 **Hours/Week**   4 **Credits**

Unit - I

Photoshop: Using the Photoshop Workspace **(14-38)**, Navigating in Photoshop **(42-49)**, Customizing the Interface and the Photoshop **(51-73)**, Image Management, Opening, Duplicating and Saving Images **(75-88),** Saving an image to disk, File Format Roundup **(122-150)**, Resampling and cropping, Using the analysis menu Tools, Creating Custom actions **(153-178)**.

Unit - II

PAINTING AND RETOUCHING – Working in Different Color Modes **(188-203)**, Basic Techniques, Brush Size and Shape **(235 – 254)**, Filling and Stroking **(279 – 309)**, Cloning and Healing **(316 -334)**, Retouching and Restoring Photographs **(335 – 349).** Selections, Masks, and Filters – Magnetic Selections Tools **(357 – 375)**, Quick Mask Mode – Generating Masks Automatically **(419 – 453)**, Looking at Filters – How Filters Work – Fading a Filter –Heightening Focus and Contrast - Blurring an Image – Understanding Noise Factors **(459 – 526)**.

Unit - III

LAYERS, OBJECTS, AND TEXT: - Working with layers – Layer Basics – Creating and using Smart Objects – Applying Transformations – Masking and Layers **(641 – 704)**, Blend Modes – Advanced Blending Options **(726 – 753)**, Shapes and Styles**(777 – 814)**, Mapping and Adjusting colors – Color Effects and Adjustments – Automatic Color effects and Corrections – Adjusting Hues and Colorizing Images – Making Custom Brightness Adjustments – Adjustments Layers **(889 – 951)**, Printing and Publishing with Photoshop – Printing Composites – Optimizing Images for Web Publication – Web Graphic Format – Slicing and Dicing an Image – Publishing from the Bridge – Batch Processing **(999 – 1066)**

Unit - IV

Illustrator: Working with Illustrator's interface – Navigating Around Your Document – Using Illustrator's Modes – Using the Edit Commands **(11-40)**, Setting Up a New Document - Modifying the Setup of a Document – Artboards - Opening and Closing Illustrator Files - Saving Files – Export Command **(41 – 61)**, Understanding Drawing and Painting Techniques - Working with Paths - Drawing Paths with Illustrator Tools **(69 – 116)**, Making Basic Shapes - Working with the Flare Tool - Filling and Stroking Shapes - Creating Shapes with the Shape Builder Tool - Using Symbols **(119 – 161)**, Working with the Swatches Panel - Using Transparency - Creating Gradients - Adding Realism with Mesh **(211 – 247)**.

Unit - V

Using Illustrator to Organize Objects - Understanding Object Stacking Order - Creating and Deconstructing Groups - Layering Your Artwork - Working with Templates in Illustrator - Working with Grids - Using Guides - Measuring for Printing **(251 – 289)** - Working with Type - Understanding Fonts - Understanding Basic Type Menu Commands - Using the Type Tools - Creating Individual Type - Working with Type Areas - Creating Area Type - Using the Type Panels - Using Advanced Type Functions - Creating Outlines **(293 – 345)**, Adding a Transformation with Tools - Working with the Transform Panel **(371 – 384)** Working with Graphic Styles and Effects – Using Effects **(491 – 514)**, Creating Web Graphics – the basics - Optimizing and Saving Web Graphics - Creating Vector Graphics for the Web - Understanding Web Slicing - Object-Based Web Slicing - Understanding CSS layers **(595 – 625)**.

TEXT BOOKS:

1. Laurie Ulrich Fuller & Robert C.Fuller ,"Adobe Photoshop CS3", Bible, 2009
2. Ted Alspach ," Adobe Illustrator CS5", Bible, 2010
3. Adobe Press" Adobe Photoshop CS5", Classroom in a Book ,2010.
4. Adobe Press " Adobe Illustrator CS5 ",Classroom in a Book, 2010.

REFERENCE BOOKS:

1. Scott Kelby "The Adobe Photoshop CS5 Book for Digital Photographers ",
2. Adobe Press " Adobe Photoshop CS4 Classroom in a Book",2010.
3. Adobe Creative Team " Adobe Photoshop CS3 Classroom in a Book"2010.
4. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical: Visual Programming (.Net)   **Subject Code:** 15PCA2CP4

Year: I   **Semester:** II

 4 **Hours/Week**   2 **Credits**

1. Write a Vb.Net program to Calculating Square Roots with Improved Accuracy, Converting Integer Numeric Data to Binary, and Multiplying Matrices
2. Write a Vb.Net program to Calculating the Greatest Common Divisor of Two Integers by Using Euclid's Algorithm, comparing the Efficiency of Two Algorithms and displaying Results Graphically
3. Write a Vb.Net program Building a Simple File Editor
4. Write a Vb.Net program Controlling Visibility of Type Members, Sharing Methods and Data.
5. Write a Vb.Net program to Hiding Data Members, using Shared Members to Share Data, Implementing an Extension Method
6. Write a Vb.Net program defining an Interface, Implementing an Interface and creating an Abstract Class
7. Write a vb.net program Defining the Matrix and MatrixNotCompatibleException Types, implementing Operators for the Matrix Type and Testing the Operators for the Matrix Type
8. Write a vb.net program Defining a Generic Interface, implementing a Generic Interface, Implementing a Test Harness for the BinaryTree Project, implementing a Generic Method
9. Write a vb.net program Using the LINQ Query Operators, building Dynamic LINQ Queries
10. Write a vb.net program to create an MS Access Databases Queries Editor
11. Write a vb.net program to create a Cartoonizer - Convert Photos into Cartoon Like Images
12. Write a vb.net program to create a program for Decrypting Images
13. Write a vb.net program for Setting and retrieving a Dataset in a Hashtable
14. Write a vb.net program to implement Serialization to Persist TreeView Control
15. Write a vb.net program to create a Windows service.
16. Write a vb.net program to create a Drop-Down Calculator
17. Write a program to illustrate Multithreading with VB.NET
18. Write a program to perform Word Automation using VB.NET

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Practical: Multimedia (Photoshop and Illustrator) **Subject Code:** 15PCA2CP5

Year: I   **Semester: II**

 4 **Hours/Week**   2 **Credits**

PHOTOSHOP LAB

1. Design a Weeding card with suitable background.
2. Merge the Two different images using the Morphing techniques.
3. Design the particle Environment with suitable objects.
4. Import the Water image and apply the filter effect.
5. By using the Filter effect apply the wind effect.
6. Design your University logo with suitable colors.
7. Design your University infra structure with hills background.
8. Creating borders with effects and textures.
9. Creating a night vision effect.
10. Extracting from background and creating a Shadow.

ILLUSTRATOR LAB

11. Ads by using tools alone [without using picture].
12. Brush work [usage of brush alone] e.g.: swirl works.
13. Making of iPod, mobiles [using 3d options].
14. Making flower pot & machines using [3d revolve].
15. Making screen saver using blend.
16. Final project [logo, envelope, cd, id, letter pad] professional look.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Mini- Project   **Subject Code:** 15PCA2CP6
Year: I   **Semester: II**

 4 **Hours/Week**   4 **Credits**

1. Identifying research oriented/real life problems and solve them through the knowledge and skills acquired. Team work in Mini Projects helps in developing communication skills and improves inter personal relationships.

2. The Students are assigned to the project Supervisor and they are asked to submit an individual project report at the end semester. The Broader areas of the project are website creation, order processing, Billing Software, Multimedia, Artificial Intelligence, and Machine Learning based projects.

3. The project work done by the student is periodically reviewed.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title Core: Windows Application Development - C#.NET
Subject Code: 15PCA3C01

Year : II   **Semester :** III

 5**Hours/Week**   4 **Credits**

Unit I

Introduction **(1-4)** – Dive into Visual C# 2010 Express **(11-38)** – Introduction to C# Applications **(40-63)** – Introduction to Classes and Objects **(66-93)**.

Unit II

Control Statements: Part I **(94-118)** – Control Statements: Part II **(120-147)** – Methods: A Deeper Look **(149-185)** – Arrays **(187-231)** – Garbage Collection and Destructors, Static Cjjjlass Members **(270-275)** – Delegates, Lambda Expressions, Anonymous Types **(291-298)**.

Unit III

Object Oriented Programming: Inheritance **(300-331)** – OOP: Polymorphism, Interfaces and Operator Overloading **(332-371)** – Exception Handling **(372-398)** - Introduction to LINQ and the List Collection **(232-247)** – Graphical User Interfaces with Windows Forms: Part 1 **(399-440).**

Unit IV

Graphical User Interfaces with Windows Forms: Part 2 **(441-502)** – Database and LINQ **(584-619)** – Generics **(730-749)** – Collections **(751-778)** – GUI with Windows Presentation Foundation **(780-837).**

Unit V

Data Access with .NETADO.NET Overview **(685-687)** – Using Database Connections **(688-692)** – Fast Data Access: The Data Reader – Managing Data and Relationships: The DataSet Class **(701-714)** – Populating a DataSet – Persisting DataSet Changes – Working with ADO.NET **(721-733)** – The DataGrid Control (735-749) – Data Binding – Visual Studio.Net and Data Access **(750-769)**

TEXT BOOKS:

1. Paul Deitel and Harvey Deitel, C# 2010 for Programmers, 4th Edition, Pearson, 2011. **(Unit I and IV)**

2. Simon Robinson, Christian Nagel, Karli Watson, Jay Glynn, Professional C#, 3rd Edition, Wrox Publisher, 2007. **(UNIT V)**

REFERENCES BOOKS:

1. Geetanjali Arora ,Balasubramaniam Aiswamy ,and Nitin Pandey, Microsoft C# Professional Projects, Prentice Hall of India Private Limited, 2002.

2. Herbert Schildt, C# 4.0 Complete References, 1st Edition, Tata McGraw-Hill, 2010.

3. http://spoken-tutorial.org/

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core: Open Source Application Development - Advanced Java-I

Subject Code: 15PCA3C02   **Year   :** II
4 **Credits**   **Semester :** III

5 **Hours/Week**

Unit I

The genesis of Java – An Overview of Java – Introduction of Java Language: Data Types – Variables- Arrays – Operators – Control Statements – Methods and classes – Inheritance – Packages and Interfaces- String Handling: String Operations-Comparison – Searching – Modifying – Character Extraction – Exception Handling: Fundamentals – types – built in exception- Custom exception – Input and Output Console: Basics – Reading, Writing Console I/O-Files, and Stream Classes

Chapter 1&6-10 , Page Number (17-38,129-261,347-376)

Unit II

Multi threaded Programming : Creating a Thread – Multiple Threads-Synchronization-Applets: Basics- Skeleton – Repainting – Introduction to AWT: working with windows, Graphics and Text – Using AWT controls, Layout Managers .**Chapter 18,19 Page Number (273-287, 587)**

Unit III

Event Handling: Event Classes – Event Listener Interfaces Networking: Basics – Inet Address-URL-TCP/IP Server Sockets – Datagram server sockets JDBC: Creating, deleting, updating the table by the console and Applet with AWT program**(Page Number651, 735-782, 687-695)**

Unit IV

Swing: Japplet – Icons and Labels – Text Fields- Buttons – Combo Boxes-Tabbed Panes – Scroll Panes – Trees – Tables. **(921- 948)**

Unit –V

 Image:File formats –image fundamentals creating ,Loading and Displaying –Image observer – Double buffering –media Tracker –Image producer-Iimage consumer-Image filter-Cropimagefilter-RGBimage Filter **-**Image Menu: the source image –Applet tag- Methods**(Page No:799-821 and 1047-1053)**

Text Book :

1. Patrick Naughton " The Complete Reference java",5ᵗʰ Edition ,TATAMcGraw Hill, 2005 .

Reference Books:

1. Herbert Schildt **"** The Complete Reference -java 2"5ᵗʰ Edition ,TATAMcGraw Hill,2002

2. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core :Operating System   **Subject Code:** 15PCA3C03
Year : II   **Semester :** III

 4 **Hours/Week**   4 **Credits**

Unit - I

Introduction – What is an Operating System? – Mainframe system : Batch Systems – Multiprogrammed Systems - Time sharing Systems - Desktop systems – Multiprocessor Systems – Distributed Systems – Clustered Systems - Real Time Systems. **(3 - 19)**.
Computer System Structures: Computer system operation - I/O structures.**(27 -34)** - Hardware protection **(42 - 48)**.
Operating-System Structures: System components - Operating System components - operating system services - System Calls - System Programs - System Structure - Virtual Machines - System design and implementation. **(55 - 88)**

Unit - II

Process Management: Processes: Process concepts - process scheduling. **(95 - 103)** - Inter process communication **(109 -117)**.
Deadlocks: Deadlock Characterization – Methods for handling Deadlocks – Deadlock prevention, Deadlock avoidance, Deadlock detection – Recovery from Deadlock. **(243 - 266)**
Storage Management: Memory Management: Introduction - Swapping – Contiguous Memory Allocation - Paging – Segmentation – Segmentation with Paging. **(280 – 313)**.
Virtual memory: Demand paging **(320 - 328)** - Page replacement algorithm **(330 - 344)** – Thrashing **(348 - 353)**.

Unit - III

RHEL: RHEL Variants- Open source- linux Origins-RedHat Distributions-Linux Principles **(3-7)** –Logging into linux system- Elements of the X Windows System-Starting the X server- Changing password- The Root User-Changing Identities-Editing text files **(11-18**)- Running Command-Help option **(28-32)**

UNIT - IV

Linux file Hierarchy concepts-Important Directory- File and Directory names- Absoulten and relative path names- Changing Directories –Listing Directories- Coping - removing files and Directories **(48-59)** - Users-Groups –Linux file security-permission type- changing file owenership-changing permissions symbolic and numeric methods **(74-83)**- Creating Shell Script **(102-105)**

UNIT - V

Introduction to vim- vim basics-Opening a file in vim- modifying a file- Using Command Mode **(163-169)** – Search and replace- Undoing Changes-configuring **vi** and **vim (171-177)** - TCP/IP Network Configuration – Managing Ethernet connection- Network Configuration files - Printing in linux – Printing commands **(191-200)** – Crontab File Formate – Grouping Commands **(266-227)** –

User and Group ID numbers-Monitoring logins-Special permissions for Executables and Directories **(321-329)**- Hard Links-Symbolic link- Seven fundamental of file types-Checking Free Space-Removable media-CDs and DVDs-USB media-Archiving Files and Compressing archives-Creating Listing and extracting file archives **(351-361)**

Textbooks:

1. Abraham Silberschatz, Peter Baer Galvin, Greg Gagne "Operating System Concepts", Wiley India Edition, 2006.**(Unit I &II).**
2. RedHat Enterprise Linux Essentials (RH033) **(Unit III,IV ,V)**

Reference Books:

1. EVI Nemeth "Linux Administration hand Book " Pearson Education 2003.

2. Neil Matthew "Professional Linux Programming ", A Press L.P ,2003

3. Richard L.Petersen "Linux Complete Reference ", 5th Edition, TATA McGraw-Hill Edition ,2003.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title : Core Practical : Windows Application Development with C#.NET

Subject Code: 15PCA3CP1

Year : II   **Semester :** III

 4 **Hours/Week**   3 **Credits**

1.   Write a C# Console Program to perform palindrome.

2.   Write a C# Console Program to perform command line argument.

3.   Write a C# Console Program to perform simple calculator.

4.   Write a C# Console Program to perform string functions.

5.   Write a C# Console Program to find second largest number.

6.   Write a C# Console Program to jagged array.

7.   Simple Math Calculator with Memory

8.   Write a C# Program to create a calculator using textbox and buttons.

9.   Create a MS Windows Notepad Application with Menus and ToolBar

10.   Create a MS Windows Word Pad Application

11.   Creating a Windows Explorer

12.   Creating an Image List View based Album

13. Working with File Saving and Opening Features in Notepad

14.   Write a C# program to create a sample inventory application for a hostel and store with Transactions

15.   Write a C# program to create a sample application for student progress card

16.   Write a C# program to create employee details with save, view, delete and modify option.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical: Open Source Application Development with Advanced Java-I

Subject Code: 15PCA3CP2

Year : II   **Semester :** III

 4 **Hours/Week**   3 **Credits**

1. Write a Java program to maintain the Stack by applying interface.

2. Write a Java program to Multiple Inheritance by using interface concept.

3. Write a Java program to get your name, age, class from one package and also get your college name address from other package in some other directory. To import these to packages into one main method.

4. Write a Java program to implement the Inheritance concept with suitable example by the Super class.

5. Write a Java program to implement try-catch method with minimum three exceptions.

6. Write a Java program to implement Custom Exception handling.

7. Write a Java program to create the multiple Threads (minimum three threads).

8. Develop a Java program to create the Thread with Synchronization concept.

9. Write a Java program to create three Threads and manually set the Priorities to those threads and then executes those threads in that priority wise.

10. Write a Java program to store the objects like your name, age, class to the file by Serialization and again Deserialized.

11. Write a Java program to read the characters from two files and write to other file by using File Reader and Writer Streams.

12. Write a Java program to write characters into one file from two different text files by SequenceInputStream.

13. Write a applet program to display number of options but choose only one option and print that option by Item Listener.

14. Write a Java application program to create the table then adding and deleting the records to and from that table by JDBC.

15. Write a Java application program to create the table then adding, modifying the records to that table by JDBC.

16. Write a Java applet program to create the table then adding and deleting the records to and from that table by JDBC.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS
AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical : Operating System   **Subject Code:** 15PCA3CP3
Year : II   **Semester :** III

 4 **Hours/Week**   3 **Credits**

1. Installation Requirements and procedure

2. Change the run level

3. Create and Change the Directories

4. Copy and rename Directories

5. Create File ,Edit and change name

6. Change the permission to the File and Directories using Numeric Method

7. Change the permission to the File and Directories using Symbolic Method

8. Create a file using Cat Command

9. Create a Soft link file and Hard link file

10. Create user, Set the password and change the permission to the user

11. Create Group and add the user under group and change the permission to the user

12. Create Shell Script to add user and set password

13. Create a Crontab

14. Create users using NEWUSER command

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Mini- Project   **Subject Code:** 15PCA3CP4
Year: II   **Semester:** III

 4 **Hours/Week**   3 **Credits**

1. Identifying research oriented/real life problems and solve them through the knowledge and skills acquired. Team work in Mini Projects helps in developing communication skills and improves inter personal relationships.

2. The Students are assigned to the project Supervisor and they are asked to submit an individual project report at the end semester. The Broader areas of the project are website creation, order processing, Billing Software, Multimedia, Artificial Intelligence, and Machine Learning based projects.

3. The project work done by the student is periodically reviewed.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core : Web Applications Development - ASP.NET   **Subject Code:** 15PCA4C04
Year : II   **Semester :** IV

 4 **Hours/Week**   4 **Credits**

Unit - I

Asp.Net 4.0 Essentials

        Overview of .NET Framework 4.0**(1-15)** - Exploring New Features of ASP.NET 4.0 **(39 -42)** - Developing a Web Application **(57-76)** - Application Structure and State **(85-91)**

Unit - II

Asp.Net 4.0 Controls

        Web Forms: Standard Controls (I)**(109-117)** - Web Forms: Standard Controls (II) **(149- 166)** - Navigation Controls: Tree View, Menu, and Sitemap Path **(233-246)** - Validation Controls **(277 -282)** -Introducing HTML Controls **(357- 374)**

Unit - III

Accessing Data in Asp.net 4.0: Working with Database Controls **(403- 426)** - LINQ Queries **(513 - 529)** -ADO.NET Entity Framework **(591- 614)**

Unit - IV

 Building Asp.net 4.0 Enterprise Applications: ASP.NET AJAX Control Toolkit **(763- 792)** - ASP.NET Web Services **(1171 -1187)** -WCF Services -ASP.NET MVC Framework **(1231- 1261)**

Unit - V

Administering Asp.net 4.0 Developing Websites Compliant with Web Standards **(1307 -1310)** - Application Tracking **(1329- 1326)** – Security and Cryptography in ASP.NET **(1453 -1500)** - Implementing Crystal Reports in ASP.NET 4.0 **(1553- 1568)** - Deploying Web applications **(1605 – 1617)**

Text Book :

1. Kogent Learning Solutions Inc **"ASP.Net 4.5 Covers C# and VB Codes - Black Book"**, Pubilshed by Wiley india.

 References Book :

2. Matthew Mac Donald " The Complete Reference ASP.NET" Tata McGRAW HILL

3. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core :Multimedia- II (HTML5, Flash, Premiere and Audition)

Subject Code: 15PCA4C05

Year : II   **Semester :** IV

4 **Hours/Week**   4 **Credits**

Unit - I

HTML5: - Overview of HTML5 and Other Web Technologies**(1-30)** - Fundamentals of HTML - Working with Text **(31- 112)**- Working with Links and URLs - Creating Tables - Working with Images, Colors, and Canvas - Working with Forms**(113-232)** - Interactive Elements- Working with Multimedia**(233-264)** - DYNAMIC HTML - Overview of JavaScript - JavaScript Functions, Events, Image Maps, and Animations - JavaScript Objects**(265-362)** - Working with Browser Objects - Working with Document Object - Document Object Model - Validation, Errors, Debugging, Exception Handling, and Security**(363-464)**

Unit - II

Overview of CSS - Backgrounds and Color Gradients in CSS - Fonts and Text Styles**(465-544)** - Creating Boxes and Columns Using CSS - Displaying, Positioning, and Floating an Element - List Styles**(545-634)** - Table Layouts - Pseudo-classes and Pseudo-elements - Effects, Frames, and Controls in CSS - Implementing the Advanced Features of HTML5**(635-760)** – XML - Working with Basics of XML - Implementing Advanced Features of XML**(761-818)** - Converting XML Documents in Other Formats - Working with XSLT - Working with XPath, XLink, and XPointer**(819-910)**

Unit - III

Adobe Flash Interface Fundamentals**(57-101)** - SYMBOLS, INSTANCES, AND THE LIBRARY - Understanding the Document Library -Defining Content Types - Editing Symbols - Modifying Instance Properties - 9-Slice Scaling for Movie Clip Backgrounds - Color Basics - Working in the Swatches Panel - Using the Color Panel - Working with Droppers, Paint Bucket, and Ink Bottles**(163-229)** - APPLYING FILTERS, EFFECTS AND LAYER TYPES - Applying Filters in Flash - Controlling Color - Layering Graphics with Blend Mode - Using Timeline Effects for Graphics and Animation - Motion Guides - Mask Layers - Motion Guides and Movie Clip Masks - Using Distribute to Layers - Character Animation Techniques - Working with Large File Sizes - Some Cartoon Animation Basics - Animator's Keys and tweening - Coloring the Art - Flash Tweening - Lip-Syncing - Backgrounds and Scenery - Finishing Up**(385-470)** - ADDING SOUND AND VIDEO - Identifying Sound File Import and Export Formats - Importing Sounds into Flash -   Assigning a Sound to a Button - Adding Sound to the Timeline - Organizing Sounds on the Timeline - Synchronizing Audio to Animations – Editing Audio in Flash – Importing Video – Exporting Video – Making Movie**(471-597)**

Unit - IV

Adobe Premiere Pro CS5 - Presenting the standard digital video workflow - Enhancing the workflow with high-level features – Incorporating other CS5 components into the editing workflow - Adobe CS5 Production Premium workflow - The workspace layout - Customizing the workspace**(8-20)** - Selecting project settings by sequence - Three types of settings - Specifying project settings - Sequence settings - Adjusting user preferences**(24-29)** Tips for shooting great video - Get a closing shot**(58-61)** - Plan your shoot - Capturing video -Three DV/HDV-capturing scenarios - Capturing an entire tape - Capturing HDV and HD video**(66-70)**.Exploring timesaving editing tools - Making rolling, slide, and slip edits - Using the Program Monitor's Lift and Extract buttons - Editing with In and Out points around a clip - Finalizing multicamera editing -Changing an edit in the Timeline - Multicam tips**(140-160)** -Applying the Motion effect to clips**(162-180)** – Exporting Frames, Clips and Sequences**(352-370)**

Unit - V

Adobe Audition – The Status Bar – Multitrack View **(7-12)** - Introduction to Digital Audio – MIDI **(13-20)** – Recording Sound – Extracting Audio from CDs **(23-35)** – Editing Sound – Using Cues – Converting Stereo and Mono **(47 – 69)** – Using Effects – Using Graphic Control – Configuring Frequently used effects **(71 – 92)** – Looping Sound – Using a Loop in a Multitrack Composition **(101 – 108)** – Using the Multitrack View – Equalizing Tracks – Importing MIDI Files – Adding Real-Time Effects – Mixing with Clip Envelopes **(111 – 140)** – Multichannel Audio – Tracks and Buses – Controlling Volume Levels – Saving Multichannel Audio **(141- 151)** – Mastering and Burning CDs **(153-162)** – Audio Restoration **(163 – 170)** – Audio for Video Projects – Importing and Exporting video Files **(173 – 179)**.

TEXT BOOKS:

1. Kogent Learning Solutions Inc, "Html5 Black Book" 2011.
2. Robert Reinhardt," Adobe Flash CS4" ,Bible, 2010.
3. Adobe press, "Adobe Flash Professional CS5 Classroom in a Book, 2010.
4. Adobe press, "Adobe Premiere PRO CS5 Classroom in a Book, 2010.
5. Jeff Partyka, "Adobe Audition for Windows 1.5", 2005.

REFERENCE BOOK:

1. Robert Reinhardt and snow Dowd,"Macromedia Flash MX 2004 Bible"5th Edition, 2004.
2. www.spoken-tutorial.org.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA   **Subject Code:** 15PCA4EL1
Year : II   **Semester :** IV

Credit: 3

Elective: Open Source Application Development –Advanced Java-II

Unit -I

Introduction: History of web applications – Support for Servets - The Power of Servlets.-Http Servlet Basics: HTTP Basic – The Servlt API – Page Generation – Web Applications – Moving On. - The Servlet Lifecycle: The Servlet Alternative – Servlet Reloading – Init and Destroy – Single-Thread Model – Background Processing – Load on Startup – Client side Caching – Server Side Caching **(Page Number 1-60)**

Unit II

Retrieving Information: The Servlet – The Server – The Client-.Sending HTML Information: The Structure of a Response – Sending a Normal Response – Using Persistent Connections – Response Buffering – Status Codes – HTTP Headers – When Things Go Wrong – Six Ways to Skin a Servlet Cat-Sending Multimedia Content: WAP and WML – Images – Compressed Content – Server Puch **(Page Number 72-196)**

Unit III

Session Tracking: User Authentication – Hidden Form Fields – URL Rewriting – Persistent Cookies – The Session Tracking API-Security: HTTP Authentication – Form Based Authentication - Custom Authentication - Digital Certificates – Secure Sockets Layer (SSL)-Database Connectivity: Relational Databases – The JDBC API – Reusing Database Objects – **(Page Number 200-280)**

Unit IV

Element of JSP:- Components of a jsp page – A complete Example –Expressions, script lets and Declarations –Request Dispatching JSP Tag Extensions :- Introduction to custom Tags –Handlers works –Tag Libraries –Tag handlers API -.**Chapter 2,3 &4 Page Number (61- 156)**

Unit V

JSP in Action:- HTML Forms-The FORM Element-Form Input Elements-Form Validation-The Server Side of Forms Handling- Overview of JDBC –JDBC Drivers – Connecting to a Database with Driver management(**Page Number 261-289, 297-318,401-417)**

Text Book:

1. Jason Hunter with William Crawford "Java Servlet Programming " 2nd Edition , Robert Eckstein and Paula Ferguson, (Unit I ,II,and III)

2. Hanna " The Complete Reference jsp2.0 "5th Edition , TATAMcGraw Hill (Unit IV and V)

References Book :

1. Herbert Schildt   " The Complete Reference -java 2",5th Edition, TATAMcGraw Hill,2002.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical : Developing Web Applications with ASP.NET

Subject Code: 15PCA4CP5

Year : II   **Semester :** IV

4 **Hours/Week**   3 **Credits**

1. Write an ASP.NET program to illustrate view state in ASP.NET
2. Write an ASP.NET program to illustrate Callback & Controls Rendering (Manually Partial Page Rendering)
3. Write an ASP.NET program to create an HTTP Binary Serialization through ASP.NET without WCF
4. Write an ASP.NET program to illustrate Paging of Large Result sets in ASP.NET
5. Write an ASP.NET program to illustrate Mastering ASP.NET DataBinding
6. Write an ASP.NET program to illustrate A Multipurpose Details Page Template in ASP.NET Dynamic Data
7. Write an ASP.NET program for Creating Search Pages with Index Server and .NET
8. Write an ASP.NET program to create dynamically access a database through a Web Application
9. Write an ASP.NET program to perform expandable Rows in GridView
10. Write an ASP.NET program to Sort XML Data using the .NET DataGrid
11. Write an ASP.NET program to illustrate ASP.NET data encryption / decryption
12. Write an ASP.NET program to create List Control Data Binding using XML
13. Write an ASP.NET program to explore ASP.NET Validators
14. Write an ASP.NET program to perform URL Routing with ASP.NET 4.0
15. Write an ASP.NET program to Setting up a Google Map with Information Window
16. Write an ASP.NET program to illustrate Actions in ASP.NET MVC 3
17. Write an ASP.NET program to Send Calendar Appointment As Email Attachment
18. Write an ASP.NET program to Integrating Spring.NET with ASP.NET Web Site
19. Write an ASP.NET program to create Ajax Chat Sample via Comet Ajax
20. Write an ASP.NET program to create Ajax Enabled Gridview using JavaScript in ASP.NET
21. Write an ASP.NET program to create File Upload Progress bar without Using AJAX
22. Write an ASP.NET program to create Image Zooming,Chopping and Panning in ASP.net like Google Maps

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.

Course : MCA   **Subject Code:** 15PCA4EP1
Year : II   **Semester :** IV

Credit: 3

Elective Practical: Open Source Application Development –Advanced Java-II

1. Write a java program for getting the server details by the servlet class.

2. To write a java program for ho the server implement HTTPSession object

3. To implement cookies in your servlet application.

4. To create the JSP application with the listeners

5. To implement servlet Thread model with suitable application

6. To implement the JSP application with the Filters.

7. To implement JSP application to the JDBC database for suitable application

8. To create session bean object in your Enterprise bean application

9. Write a java program, to access remote object in the Enterprise bean application

10. Write a java program to get JNDI context using the Naming service in Enterprise JavaBeans application.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical: Multimedia-II (HTML5, Flash, Premiere and Audition)

Subject Code: 15PCA4CP6

Year : II   **Semester :** IV

4 **Hours/Week**   **Credit: 3**

ADOBE FLASH

1. To implement navigating movies by using Movie explorer and to run the Movie clips and Graphic symbols with the existed objects.
2. To implement text modification and convert the text into Vector shapes and also converts bitmaps and text to desire shapes with some special effects by using Break Apart command.
3. To create frame-by-frame animation on the desire object by using key frame and also create Motion between animations on the desire object.
4. To implement the Normal, Mask, and Motion Guide layers on the desire object.
5. To create Cartoon animation with a character's movement also with background effects.
6. To implement sound timeline on the objects, and make playing and stopping the sound.
7. To making sound Movie clips like Piano in the Flash.
8. To create a Flash Banner with minimum 5 images.
9. To create a Flash Web site for the private company.
10. To create short 2D story for minimum 5 minutes.

ADOBE PREMIERE

11. Importing files into Adobe Premiere Pro
12. Making a rough cut in Adobe Premiere Pro
13. Exporting a still frame
14. Applying transitions in Adobe Premiere Pro
15. Creating titles in the Adobe Premiere Pro Title
16. Exporting sequences from Adobe Premiere Pro
17. Exporting with Adobe Media Encoder

ADOBE AUDITION

18. Working with Multi Tracks
19. To Create a MIDI Devices and make Recording Audio
20. To Create a Time Stretching Audio
21. To Create a Markers and Adding Silence
22. To Create a Setting Temps and Real Time Effects
23. Hiss Removal, Noise Reduction, Removing Clicks and Pops

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AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Mini- Project   **Subject Code:** 15PCA4CP7

Year: II   **Semester: IV**

 4 **Hours/Week**   3 **Credits**

1. Identifying research oriented/real life problems and solve them through the knowledge and skills acquired. Team work in Mini Projects helps in developing communication skills and improves inter personal relationships.

2. The Students are assigned to the project Supervisor and they are asked to submit an individual project report at the end semester. The Broader areas of the project are website creation, order processing, Billing Software, Multimedia, Artificial Intelligence, and Machine Learning based projects.

3. The project work done by the student is periodically reviewed.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core: Open Source Application Development - PHP and MYSQL.

Subject Code: 15PCA5C06   **Year :** III

Semester : V

4 **Hours/Week**   4 **Credits**

Unit I

Introducing PHP (1-18) – Using Variables and Operators (21-45) – Controlling program flow (49-82) – Working with cookies, sessions and headers (293 – 308).

Unit II

Working with arrays (85-118) – Using functions and classes (121-148) – Working with files and directories (159-180) – Working with databases and SQL (185-246)

Unit III

Getting started with Ajax (433-435) – Writing Ajax (435) – Creating and Opening XMLHttpRequest object (436-440) – Handling & Starting the Downloaded data (441-447) – Ajax with Some PHP (448) – Passing Data to the Server with GET & POST (449-455).

Introduction to JQuery (1-8) – Element getters and setters (13-21) – Altering document structure (25-29) – Events and Animated Effects (31-58) – Ajax and Utility functions (63-88) – JQuery with plugins (103-108).

Unit IV

Understanding Joomla (3-7) – Installing Joomla (25-39) – A tour of the joomla administrator interface (41-49) – Defining Section and Creating Structure (53-57) – Creating, editing and deleting sections, categories and articles (59-83) – Joomla menus (125-166) – Joomla Templates and modules (169-228).

Unit V

Meet Yii (7-15) – Getting started (17-32) – Creating the initial trackstar application (53-59) – Project CRUD (61-90) – Adding Tasks (93-141) – User management and authentication (147-169).

TEXT BOOKS:

1. Vikram Vaswani, A Beginner's Guide PHP, 1st Edition, Tata McGraw Hill, 2008.
2. Steven Holzner, PHP Complete Reference, Tata McGraw Hill Edition, 2008.
3. David Flanagan and ORelly, JQuery Pocket Reference, 1st Edition, 2011.
4. Jen Kramer, Joomla! Start to Finish, John Wiley & Sons, 2010.
5. Jeffrey Winesett, Web Application Development with Yii and PHP, 2nd Edition, Packt Publishing Ltd, 2012.

REFERENCE BOOKS:

1. http://spoken-tutorial.org/

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA   **Subject Code:** 15PCA5C07
Year : III   **Semester :** V

Credit: 4

Core: Open Source Application Development with Android and Content Management

Unit –I

Introducing Android : Android platform – Understanding the android market – layers of android – the intent of android development – four kinds of android components – Understanding the androidMainfes.xml file- mapping applications to processes- creating an android application-Android development environment: Introducing the android SDK – exploring the development environment- Building an android application in eclipse- Using the android emulator- debugging your application **(Page no:3 - 57)**

Unit –II

Exercising the android SDK: Creating Activity – Working with views – Using resources – Exploring the AndroidMainfest file-**Intents and Services :** Serving up RestaurantFinder with intent – Checking the weather with a custom URI – checking the weather with broadcast receivers – Building Background weather service – Communicating with the WeatherAlertService from other Apps-**Storing and retrieving data:** Using preference – using the filesystem – persisting data to a database – working with ContentProvider classes **Networking and web services**: Overview of networking- checking the network status – communicating with a server socket – working with HTTP – web services **(Page no: 65 – 184)**

Unit –III

Telephony: Exploring telephony background and terms – accessing telephony information – interacting with the phone – working with the messaging: SMS-**Notifications and alarms:** Introducing Toast – introducing notifications – introducing alarms-**Graphics and animations:** Drawing graphics in android – Creating animations with android's graphics API – introducing OpenGL for embedded system- **Multimedia:** Introduction to multimedia and OpenCORE – playing audio – playing video – capturing media – recording video-
Location, location, location: Simulating your location within the emulator – Using LocationManager and LocationProvider – Working maps – Converting places and address with Geocoder **(Page no: 187 – 288)**

Unit –IV

Android Applications: Putting android to work in a field service application – mapping out the application flow – Application source code – source code for managing jobs – server code-**Building Android applications in C :** Building android apps without the SDK – solving the problem with dynamic linking – what time is it? The day time server – Daytime client (Page No:291-316,339-352)

Unit –V

The Maturing Platform: Bluetooth and sensors – Interacting with the sensor manager – building SenseBot application-**Integration:** Understanding the android contact model – getting started with linkedIn – managing contacts – keeping it together – creating a LinkedIn account – Synchronizing to the backend with SyncAdapter – Wrapping up: LinkedIn in action-**Android Web development:** What's android web development? – Optimizing web applications for android – storing data directly in a browser – building a hybrid application.(Page No:368-379,388-440)

Text Book :

1.   W. Frank Ableson Robi Sen Chris King "Android in Action*"* .2nd Edition , Manning
       Publications,2011.

References Book :

2.   Shawn Van Every "Pro Android Media: Developing Graphics, Music, Video, and Rich
      Media Apps for Smartphones and Tablets ".

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Elective: Data Warehousing and Mining   **Subject Code:** 15PCA5EL2
Year: III   **Semester:** V

 4 **Hours/Week**   3 **Credits**

Unit I

Data warehousing components- Introduction: Overall Architecture - Data warehouse Database - Sourcing, Acquisition, Cleanup and Transformation tools - Meta data Access Tools: Accessing and Visualizing Information - Tool Taxonomy - Query and Reporting Tools - Applications - OLAP tools - Data Mining tools Data Marts - Data Warehouse Administration and Management - Impact of the web - Approaches to Using the web
(PG.NO:55 – 78)

Unit II

Basic Data mining tasks –Classification-Regression-Time series Analysis-Data mining Issues-Data Mining Metrics- Social Implications of Data Mining-Data mining from a Database Perspective.
(PG.NO:03 – 18)

Unit III

Data mining Techniques – Statistics- Point Estimation – Bayes theorem – Hypothesis testing – Regression and Correlation – Similarity measures – Decision Trees – Neural networks – Genetic Algorithms.
(PG.NO:42 – 65)

Unit IV

Classification – Bayesian Classification – Distance Based Algorithms – Simple Approach – K Nearest neighbor – Decision Tree based algorithms – CART – Neural network based algorithms – Clustering – Hierarchical Algorithms – Agglomerative Algorithm- Association rules – Apriority algorithm – sampling algorithm – partition algorithm
(PG.NO: 71 – 113,119 – 144,160 – 174)

Unit V

The Business Value – Customer Profitability, Customer Acquisition, Cross Selling, Customer Retention – customer Segmentation.- Case studies.
(PG.NO: 231 – 315)

Text Books

1. Alex Berson, Stephen Smith and Kurt Thearling," Building Data Mining Applications for CRM" Tata McGraw Hill ,2002. (Unit I & V)
2. Margaret H Dunham " Data Mining " Pearson Education , 2002 (Unit II,III & IV).

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course : MCA

Course Title: Core Practical - Open source Application Development - PHP and MYSQL

Subject Code: 15PCA5CP8

Year : III   **Semester :** V

 4 **Hours/Week**   3 **Credits**

1. Create an application to display students details in a table using PHP

2. Create an application to display bus route using PHP.

3. Display the details of employees using PHP.

4. Display the course table using PHP.

5. Create a application to list the books in the library using php.

6. Create a login page using PHP.

7. Create an application form for a college using PHP.

8. Create an application form for a school using PHP .

9. Create a form to apply for voter ID using PHP

10. Create an application form to apply for driving license.

11. Design a form to create an email ID using php with the validation of mandatory field.

12. Design a form to reserve railway ticket with the validation of mandatory fields.

13. Design a form to reserve air ticket with the validation of mandatory fields.

14. Create an application form for Pan Card using PHP.

15. Create an application for bank using PHP.

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.

Course : MCA   **Subject Code   :** 15PCA5CP9
Year : III   **Semester   :** V

Credit: 3

Core Practical : Open Source Application Development with Android and Content Management

1. Write the steps for installation and configuration of android in Windows OS.

2. Write a program to demonstrate usage of two textbox (EditText), Label(Textview) and Button widgets in android and perform addition of two numbers.

3. Write a program and demonstrate the graphical layout orientation.

4. Write a program to demonstrate usage of ListBox, ComboBox, Snippers with Toast (MessageBox).

5. Write a program to demonstrate usage of TextArea, CheckBox, RadioButton with Toast (MessageBox).

6. Write a program and calculate the simple interest and compound interest using its API controls.

7. Write a simple program to demonstrate the contact manager using ContactsContract API (Insert, Delete, Edit, View).

8. Write a simple program to demonstrate working with SQLite Database.

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AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Mini- Project   **Subject Code:** 15PCA5CP10

Year: III   **Semester: V**

4 **Hours/Week**   4 **Credits**

1. Identifying research oriented/real life problems and solve them through the knowledge and skills acquired. Team work in Mini Projects helps in developing communication skills and improves inter personal relationships.

2. The Students are assigned to the project Supervisor and they are asked to submit an individual project report at the end semester. The Broader areas of the project are website creation, order processing, Billing Software, Multimedia, Artificial Intelligence, and Machine Learning based projects.

3. The project work done by the student is periodically reviewed..

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AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Core Project Work and Viva-Voce   **Subject Code:** 15PCA6CPR
Year: III   **Semester: V**

20 **Hours/Week**   20 **Credits**

1. The Final Year Students are assigned to the project Supervisor and they are asked to submit an individual project report at the end semester.

2. The Broader areas of the project are website creation, order processing, Billing Software, Multimedia, Artificial Intelligence, and Machine Learning based projects.

3. The student has to approach the nearby companies to get approval from the company to undergo his project work for the period of SIX months.

4. The students have to submit the project Completion Letter from the organization.

    5. The project work done by the student is periodically reviewed.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Elective Practical: Data Warehousing and Mining   **Subject Code:** 15PCA5EP2

Year : III   **Semester :** V

4 **Hours/Week**   3 **Credits**

1. Write a program to perform association task using apriori algorithm

2. Write a program to perform classification using binary logistic regression algorithm

3. Write a program to perform regression using multi variate linear regression algorithm

4. Write a program to perform clustering using k-means algorithm

5. Write a   program to perform clustering using C-cluster algorithm

6. Write a program to perform optimization using genetic algorithm

7. Write a program to calculate similarity measures of documents: a) Dice b) Jaccard c)Cosine d) overlap e) Euclidean   f) Manhattan

8. Write a program to calculate similarity measures of documents: Write a program to find splitivity attribute using ID3 algorithm, CART algorithm, C4.5, SPRINT.

9. Write a program for set of data using NN algorithm

   Write a program divisive clustering algorithm, Hierarchical algorithm, Agglomerative algorithm, squared error clustering algorithm for any set of date

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Course: MCA   **Subject Code:** 15PCA4EL1

Year : II   **Semester :** IV

Credit 3

Elective: Dreamweaver, Wordpress and Joomla

Unit I

Introducing Dreamweaver 8 (11 – 40) - Accessing the Code Directly (155 – 200) - Building Style Sheet Web Pages (209 – 248) - Working with Text (249 – 300) - Inserting Images (301 – 338) - Establishing Web Links (339 – 345)

Unit II

Working with Divs and Layers, Using behaviors (359 – 390) - Setting Up Tables, Interactive Forms (435 – 500), Creating lists, Using Frames and Framesets (513 – 568) - Working with Timelines (569 – 586).

Unit III

Introduction to Wordpress, Installing (1 – 32) – Dashboard and Settings (41 – 58) – Working with content (61 – 101) – Importing Content (105 – 122).

Unit IV

Creating Themes (125 – 171) – Creating Widgets (205 – 223) – Creating Plugins (225 – 268) – Users and Roles (271 – 288) – Performance and Security (289 – 305)

Unit V

Introducing Joomla, Installation and Configuration (1 – 42) – Developing Templates (45 – 79) – Adding and Modifying Available Extensions (81 – 116) – Design Patterns and Joomla (179 – 192).

TEXT BOOKS:

1. Joseph W.Lowery ,"Dreamweaver 8 Bible" Wiley Publishing, Inc. (Unit –I & II)
2. Stephanie Leary "Beginning WordPress 3 " A press. (Unit III & IV)
3. Dan Rahmel "Professional Joomla!", Wiley Publishing, Inc. (Unit – V)

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

Course: MCA

Course Title: Elective Practical: Dreamweaver, Wordpress and Joomla
Subject Code: 15PCA4EP1

Year : II   **Semester :** IV

Credit: 3

1. Joomla 1.5 or Joomla 1.6 Installation Process.

2. Joomla Default Template Editing and Uploading.

3. Joomla Control Panel and Joomla Website understanding.

4. Joomla Template implementation in Joomla 1.6 using Extension Manager.

5. Web site Menu development using Menu manager in Joomla.

6. Website Article Development using Joomla Article Manager and Design.

7. Wordpress Installation Process.

8. Wordpress Content management Article Development.

9. Wordpress Manu management using Menu manager.

10. Wordpress website implementation and control panel.

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.

Course : MCA   **Subject Code:** 15PCA4EL1

Year : III   **Semester :** V

Credit: 3

Elective: Software Development Lifecycle Management

UNIT – I

Introduction – What is a Project – Software Project versus Other Types of Project – Activities Conversed by Software Project Management – Some Ways Of Categorizing Software Projects – The Project as a System – What is Management – Problem with Software Projects – Management Control – Stakeholders – Requirement Specification – Information Specification – Information and Control in Organizations.**[P.NO: 1-18]-** Identify Project Scope and Objectives Identify Project Scope and Objectives Identify Project Infrastructure - Analyze Project Characteristics - Identify Project Products and Activities **[P.NO:19-36]**

UNIT –II

Introduction – Strategic Assessment – Technical Assessment – Cost Benefit Analysis – Cash Flow Forecasting – Cost-benefit Evaluation Techniques – Risk Evaluation. **[P.NO:37-55]**

Selection of Appropriate Project Approach: Introduction – Choosing Technologies - Technical Plan Contents list – Choice of Process Models – Structured Methods – Rapid Application Development – The Waterfall Model – The V Process Model – The Spiral Model – Software Prototyping – Other Ways of categorizing Prototypes – Tools **[P.NO:57-77]**

UNIT- III

Risk Management: Introduction – The Nature of risk – Managing Risk – Risk Identification – Risk Analysis – Reducing the risk – Evaluating risks to the Schedule – Calculating the Z Values. **[P.NO:133-150]-** Resource Allocation : Introduction – The Nature of Resources – Identifying Resource Requirements – Scheduling Resources – Creating Critical Paths – Counting the Cost – Being Specific – Publishing the Resource Schedule – Cost Schedules – The Scheduling Sequence. **[P.NO:151-167]**

UNIT – IV

Monitoring and Control : Introduction – Creating the Framework – Collecting the Data – Visualizing Progress – Cost Monitoring – Earned Value – Prioritizing Monitoring – Getting the Project back to Target – Change Control. **[P.NO:169-190]-**   Managing Contracts : Introduction – Types of Contract – Stages in Contract Placement – Typical Terms of a Contract – Contract Management – Acceptance. **[P.NO:191-208]**

UNIT – V

Managing People and Organizing Teams : Introduction – Understanding Behaviors – Organizational Behaviors: a background – Selecting the right Person for the job – Instruction in the best methods – Motivation – working in Groups – Becoming in Groups – Becoming a Team – Decision Making – Leadership –Organizational Structures. **[P.NO:211-232]-**Small Project: Introduction – Some Problems with Student Projects – Content of a Project Plan **[P.NO:261-273]**

Text Book :

1. Bob Hughes and Mike Cotterell "Software Project Management *".* 2nd Edition,TataMcGra-Hill Edition 2001.

References Book **:**

1. Mickey Gousset, Brian Keller, Ajoy Krishnamoorthy and Martin Woodward "Professional Application Lifecycle Management".

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), COIMBATORE – 641 020.

.

Course : MCA   **Subject Code:** 15PCA4EP1

Year : II   **Semester :** IV

Credit: 3

<mark>**Elective Practical : Software Development Lifecycle Management**</mark>

1 . Concept of Software Development and its Life Cycle

Study the Create a Story on the Requirement for Student Progress Card Management in your college

Create a functional work flow chart for the requirement collected on Student Progress Card Management in your college

2 . Understanding Project Scheduling and Documentation for Development Specification

Create a Functional document specifying the complete requirements of the Student Progress Management

Create a Project Plan using MS Project on the Student Progress Management Project

3. Using and Working With Microsoft Viso for Project Documentation

Create a ERD and Physical Data Model for Student Progress Management Database

Create the detailed Workflow for the activities and process done in Student Progress Management

4 . Understanding the Requirements / Workflow / Creating Use Cases and UI Prototypes

Create the UI Prototype for the Student Progress Management

Create the Use Case and Class diagrams for Student Progress Management

5. Creating Documents for Program Modules / Classes / Sqeuence / Activitiy Diagram

Create a detailed activity digram for the Student Progress Management Methods in the Class

Create a Sequence Diagram for th einteraction of the Methods in the Student Progress Management Classes

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Course : MCA   **Subject Code:** 15PCA5EL2

Year : III   **Semester :** V

Credit: 3

Elective: Software Building / Release and Testing Management

Unit –I

Software quality assurance : Overview – The software Crisis – The birth of software Engineering- The software Chaos – Criteria for the success of a software project – Process oriented software development –Phases in software development life cycle and models – software testing tools- The management process –software quality assurance – quality management system – process change management **(PG.NO: 13 – 66)**

Unit –II

Software testing process –Psychology of testing – verification and validation – testing team and development team – cost of quality – characteristics of test engineers-level of testing –testing approaches – types of testing –test plan – criteria for completion of testing – software reliability – manual testing and its limitation/drawbacks **(PG.NO: 69 – 95)**

Unit –III

Software testing tools: Overview –Need for Automated testing tools- Taxonomy of testing tools– Functional/Regression testing tools- Performance testing tools – Testing management tools-Source code testing tool – select a testing tool –Win runner :Overview –Testing application using Win Runner – Test Script Language (TSL) – GUI Map File – Synchronization of test cases – Data-Driven testing – Rapid test script wizard – Mapping custom object to a standard class – checking GUI objects **(PG.NO: 97 – 163)**

Unit –IV

Skill Test : Overview –Architecture –Testing an application using skill test- The 4test Scripting language –checkpoint –Data-Driven Test cases –SQA Robot: Overview – Testing an application

using SQA Robot –Synchronization of test procedures- Creating Checkpoints- Load Runner : Overview – creating Vuser script using Virtual User Generator – Creating Virtual Users using Load

runner Controller **(PG.NO: 167 – 235)**

Unit –V

JMeter : Overview- JDBC Test – HTTP test – Test Director :Overview – Testing Management process – Managing the testing process using Test Director (PG.NO: 243 – 295)

Text Book :

1.Dr. K.V.K.K Prasad "Software Testing Tools" 5th Edition 2004

References Book :

1. Srinivasan Desikan ,Gopalaswamy Ramesh **"** Software Testing principles and practices **"** 6th Edition , 2008,

2. William E.Perry " Effective Methods for Software Testing ", 3rd Edition ,   Willey India Edition .

Course: MCA

Course Title: Elective Practical: Software Building / Release and Testing Management

Subject Code: 15PCA5EP2

Year : II   **Semester :** IV

Credit: 3

1. Software quality assurance.

2. Software testing process

3. Select a testing tool

4. Functional/Regression testing tools

5. Test Script Language.

6. Mapping custom object to a standard class.

7. The 4test Scripting language

8. Creating V user script using Virtual User Generator.

9. Creating Virtual Users using Load runner Controller.

10. Testing Management process

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Course : MCA   **Subject Code:** 15PCA5EL2

Year : III   **Semester :** V

Credit: 3

Elective: Advanced File system Management and User Administration

UNIT - I

Boot sequence overview-Boot loader components-GRUB- Kernal Initialization- init initialization - Run levels- Controlling Services (page no 3-14)- RMP Package Manager- Installing and Removing software-Updating a Kernal RMP (page no 21-23)-About and using yum- Searching packages and Files-Configuring additional repository-red hat network and server- entitlements- Red hat network client(page no 26-34)

UNIT – II

SSH: Secure Shell-VNC:Virtual Network Computing – System crontab files (page no 83-86)Adding a new user account – User private Groups- Modifying and deleting user accounts-Group Administration- password Aging polices- switching accounts- sudo(page no 100-106)- Default permissions-Access Control Lists- SElinux- SElinux, Continued, Targeted,policy, Management(page no 114-121)-

UNIT – III

Device Recognition- Disk partitioning- managing partitions-Making Filesystems(page no 143-146)- Mount points- mounting file system with mount-Unmounting file systems(page no 149-152)- Network interfaces- Driver selection- speed and duplex settings-IPv4 address- Dynamic and static IPv4 configurations-Device Aliases- Routing table-Default gateway-Configuring Routes- Verify IP connectivity- Define the local host name-Local and remote Resolvers – verify DNS Connectivity(page 209-226)

UNIT - IV

INSTALLATION: Anaconda, RHEL installer- starting installation – Boot media- accessing the installer – installation method- Network installation server-installation overview-configuring file system-advance partitioning(page no 246-255)

Troubleshooting :Networking - boot process – file system corruption and recovery-recovery run level(page no 300-305)

UNIT – V

Server Configuration: FTP Server – DHCP Server – DNS Server –Mail Server – Web Server – Samba Server –Proxy Server (Squid)

Textbooks:

1. RedHat Enterprise Linux Essentials (RH133) **(Unit I,II,III,IV ,V)**
2. RedHat Enterprise Linux Essentials (RH253) **(Unit V)**

Reference Books:

1. EVI Nemeth ,"Linux Administration hand " , Pearson Education ,2003.

2. Neil Matthew, "Professional Linux Programming", A Press L.P ,2004.

3. Richard L.Petersen "Linux Complete Reference "5th Edition, TATA McGraw-Hill Edition ,2003.

SRI RAMAKRISHNA MISSION VIDYALAYA COLLEGE OF ARTS

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For candidates admitted from academic year 2016-2017 onwards under New CBCS.

.

Course : MCA   **Subject Code:** 15PCA5EL2

Year : III   **Semester :** V

Credit: 3

Elective: Advanced File system Management and User Administration

1. Create and Manage Disk partition

2. Manage and Change File System

3. Create and Configure Sub Interface

4. Install and Remove Software

5. Use Kickstart to Automate Installation

6. Group Administration and Modifying/Deleting Accounts

7. Configure NIS Client

8. Configure ACL

9. Configure New Printer

10. Configure RAID