

2010

North Maharashtra University, Jalgaon

**FACULTY OF COMMERCE &
MANAGEMENT**

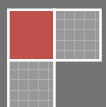
Syllabi of

Master in Business Management (Computer Management)

MBM (Computer Management)

1st Year (Sem-I)

(w.e.f.: June-2010)





North Maharashtra University, Jalgaon

(NACC Accredited 'B' Grade University)

FACULTY OF COMMERCE & MANAGEMENT

STRUCTURE OF MASTER IN BUSINESS MANAGEMENT (COMPUTER MANAGEMENT)

MBM (COMPUTER MANAGEMENT)

Semester-I and II (w.e.f.-June 2010)			
Paper	Semester-I A: Credit Courses	Paper	Semester-II A: Credit Courses
1.1	Web Designing & Web tools	2.1	Ruby Programming Language
1.2	Operating Systems	2.2	DBS & SQL Server 2008
1.3	Object Oriented programming using C++	2.3	Introduction to Animation and Flash
1.4	Principles of Management	2.4	Management Information System & ERP
1.5	Financial Accounting for Manager (Tally 9.2)	2.5	Management Accounting
1.6	Lab- I (1.1 & 1.2)	2.6	Lab – III (2.1 & 2.2)
1.7	Lab – II (1.3 & 1.5 (Tally 9.2))	2.7	Lab – IV (2.3)
	B: Qualifying Non-Credit Course		B: Qualifying Non-Credit Course
1.8	Computer Fundamentals & Hardware/Software Installation	2.8	Research Methodology & Statistical Tools

Semester-III and IV (w.e.f.-June 2011)			
Paper	Semester-III A: Credit Courses	Paper	Semester-IV A: Credit Courses
3.1	Software Designing & Development	4.1	Quality Control and Software Testing
3.2	Organizational Behaviour	4.2	Information Security & Cyber Laws
3.3	Functional Elective Paper 1	4.3	Functional Elective Paper 4
3.4	Functional Elective Paper 2	4.4	Functional Elective Paper 5
3.5	Functional Elective Paper 3	4.5	Functional Elective Paper 6
3.6	Lab – V (3.1 & 3.4)	4.6	Lab - VII (4.1 & 4.4)
3.7	Lab – VI (3.5)	4.7	Lab – VIII (4.5)
3.8	Information System Audit (ISA)	4.8	Project

Functional Electives for Semester-III and IV (w.e.f.-June 2011)			
Paper	A (Web Management)	B (Application & Database Management)	C (Graphics & Animation)
3.3	Web Mining Concepts	Database Administration & Security	Introduction to Designing & Graphics
3.4	Scripting Languages	Java	Digital Graphics Design
3.5	C#.NET	VB.Net	3D Animation using Houdini
4.3	Website Management & Services	Data Mining & Data Ware Housing	Advanced Computer Animation
4.4	ASP.NET	Oracle & D2K	Post Production Processes for Animation
4.5	PHP & AJAX	J2EE & J2ME	3D Animation using Maya

Note : The student has to opt for one Specialization from amongst the offered groups of subjects under A, B or C for both the semesters 3rd & 4th. No change in specialization opt for 3rd sem. shall be allowed during the 4th sem.



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.1: Web Designing & Web Tools

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

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1. **Internet** (05)
 - a. Types of Networks-LAN, WAN, MAN , Internet, History & Network Topologies-Star, Bus, Ring Topology
 - b. Basic requirements of internet – Modem, Routers, browsers, gateways, leased lines, ISP,TCP/IP, Transmission Media: Co-axial Cable, Twisted Pair Cable, Fiber Optics, Wireless Communication
 - c. Comparison of live web sites, domain types, Browser compatibility & display resolution
 - d. ISO-OSI seven layer model
 2. **HTML** (06)
 - a. Introduction : Structure of HTML
 - b. HTML Tags: Text formatting tags, Marquee tags, Changing Background with color and images, Anchor-Internal and External Linking, Image tags, List
 - c. Moving from HTML to XHTML
 - d. Browser compatibility issues
 - e. Considering Connection Speed Differences
 3. **Planning Site Navigation** (04)
 - a. Create usable Navigation, Text-Based Navigation, Contextual linking,
 - b. Using Graphics for navigation & Linking
 4. **Working with Tables, Graphics & Color** (03)
 - a. Understanding table basics, using table elements, Formatting Tables
 - b. Understanding graphics file formats, Using , working with images and color, applying background properties
 5. **CSS (Cascading Style Sheets)** (06)
 - a. Style & Types of styles-Internal/External Style Sheets.
 - b. Using <Div> and
 - c. CSS Font Properties , Creating Font and Text Properties Style Sheets
 - d. Controlling color & image properties with css
 6. **Unit VI: Working with Frames and Forms** (06)
 - a. Designing effective Frames, Working with FrameSets
 - b. Understanding Form Syntax, Creating input objects- <form>, <input>, <select>, <option>, <textarea>, <button>, <label>, <optgroup>
 7. **Web Designing Tools**
 - a. **Dream Weaver:** (14)
 - i. Introduction & Dreamweaver Interface

- ii. Adding content to site: Creating web pages, defining sites, Page Properties, using design template, inserting/presenting text, list, horizontal rules.
- iii. Formatting with CSS: Formatting page, CSS, creating CSS, using external CSS, attaching CSS, page layout with CSS.
- iv. Inserting Objects: Inserting date, Flash Movies, shockwave movie, flash text, flash navigation buttons, behavior linked to objects, script, images.
- v. Layers: Inserting a layer, selecting, formatting managing layers, transforming layer, layer properties, creating nested layers.
- vi. Links: Different types of links, formatting links, creating links, managing links, jump menu.
- vii. Framesets & layout: Creating a Frameset, formatting defining links in a frameset, construction strategy for frameset, defining different layout, different types of layout.
- viii. Tables: Inserting Table, formatting a table, changing the structure of table, page structure using tables.
- ix. Forms: Creating form, Adding objects to the form, Verifying a form validity.

b. Flash CS 3

(06)

- i. Introduction to Flash: Starting the flash program, Interface of Flash Environment, Introduction to Flash Features, Window of Flash
- ii. Scene: Scenes, Inserting new scene, Arranging Scene order, scene editor
- iii. Timelines: Using timelines , timeline properties, inserting keyframes , extending keyframe difference between frames, blank keyframes, keyframes, etc
- iv. Symbols: Types of Symbols, using symbols, linking scène with button symbols
- v. Tools & Graphics: ToolBar Palette, Selection, Direct Selection, pencil, Brush, eraser, Magnifier, text, ink bottle, paint bucket, gradient, lasso, eyedropper, hand, shape, transform tool with options etc

REFERENCE BOOKS:

- 1) Textbook of Web Designing By Joel Sklar, Cengage Learning Publication 2009
- 2) Web designing in Nut Shell (Desktop Quick Reference) by Jennifer Niederst ublication – O’Reilly publication
- 3) Designing web navigation by James Kalbach Publication – O’Reilly publication
- 4) How to become web master in 14 days Publication – Techmedia publication
- 5) The Web collection revealed premium edition : Dream weaver CS4 & Photoshop CS4 by Sherry Bishop, Jim Shuman, Elizabeth Eisner Reading, Delmar, Language Learning
- 6) Local & Wide Area Network By Michael Palmer and Robert Bruce Sinclair, Thomson Publications
- 7) Web Enabled Commercial Application Development using HTML, DHTML, Java Script, PERL, CGI By Ivan Bayross, BPB Publication
- 8) Flash MX BIBLE (By BPB Publisher)



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.2: Operating Systems

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

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- 1) Introduction to System Software (04)**
 - a) System Software- Definition, Components of System Software
 - b) Operating System: Meaning, Need for Operating system
 - c) Types of Operating Systems-Single user, Multi-user, simple and batch processing, Multitasking, Distributed system, Real time System, OS functions and Services
 - 2) Process Management (08)**
 - a) Process Management- Concept of Process, Process State- Running, Blocked, Ready, Terminated
 - b) Operation on Processes-Creation, Termination
 - c) Concept of Threads- Processes Vs Threads, Why Threads? ,User-Level Threads, Kernel-Level Threads
 - 3) CPU scheduling (14)**
 - a) Basic Concept, Multiprogramming concept
 - b) Scheduling concept – Preemptive Scheduling, Non-Preemptive scheduling
 - c) Scheduling Criteria – CPU utilization, throughput, turnaround time, waiting time, response time
 - d) Scheduling algorithms – FCFS, SJF, Round Robin
 - 4) Memory Management (06)**
 - a) Swapping
 - b) Contiguous Memory Allocation: Memory Mapping and Protection, Memory Allocation, Fragmentation
 - c) Multiple partitions
 - d) Paging: Hierarchical Paging, Hashed & Inverted Page Tables
 - e) Segmentation
 - f) Virtual Memory
 - 5) Storage Management (04)**
 - a) Secondary Storage Structure: Disk Structure, Disk attachment, Disk Scheduling & Disk Management
 - b) Overview of Mass Storage
 - 6) Introduction to Linux Operating System (10)**
 - a) Study of file system, Features of Linux, Linux Distributions
 - b) XWindows - GNOME, KDE, Shells and Types-BSh, BASH, CSh,KSh, Environmental variables of Bash shell.
 - c) Basic commands: pwd, cd, ls, more, less, head, tail, cat, echo, clear, kill, ps, find, grep, man, chmod, cal, date, cut, paste, who, who am I, wall, wc, pr, mkdir, rmdir, rm, sort, tar, tty, users, groups, cmp
 - d) Control structure and looping statements for shell.
 - 7) Introduction to Windows Operating System (04)**
 - a) Comparison of Windows Products
 - b) Design Goals: Extensibility, Portability, Reliability, Compatibility, Performance
 - c) Memory Management, Processor Management, Device Management, File Management, Network Management, Security Management, User Interface

1.2: Operating Systems

REFERENCE BOOKS:

- 1) System Programming and Operating Systems - D. M. Dhamdhere - Tata McGraw Hill
- 2) Operating system concepts - Peterson Silberschatz - Addison Wesley.
- 3) Operating System, By S.R.Sathe & Anil S.Mokhade - MacMillan Publication.
- 4) Operating System Concepts- A. Silberzchaz & P.B. Galvin, Addison Wesley
- 5) Operating System - Achyut Godbole - TMH Publications
- 6) Complete Guide to Linux By Peter Norton, Techmedia Publication
- 7) The Complete Reference Red Hat Linux By Richard Petersen, Tata McGraw Hills Publications
- 8) Operating Systems By Flynn/McHoes, Cengage Learning Publication



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M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.3: Object Oriented programming using C++

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 1) Introduction (02)**
History of C++, Structured Vs Object oriented development, OOP's Features-Object, Classes, Data Encapsulation & Abstraction, Delegation, Inheritance, Polymorphism, Message Communication.
- 2) Data types, Operators, Expression & Control Structure (06)**
Character Set, tokens, Identifiers, Keywords, Variables, Operators, Control Flow Statements, Expressions & Qualifiers, Operator precedence.
- 3) Arrays, Strings, Structure & Union (06)**
Arrays, Strings, Multidimensional Arrays, Array of Strings, Declaration & definition of Structure and Union, Uses of Structure and Union, Difference between Structure & Union.
- 4) Function & Pointers (06)**
 - a) Function Component, Parameter passing-Pass by value, Pass by Reference, Pass by Address, Inline Function, Function Overloading, Scope and Extent of variable, Recursion.
 - b) Pointers- Pointer variable, Address Operator(&), Runtime Memory Management, Pointer to Pointer, Array of Pointers, Pointer Constants, Pointer to Function, Pointer to Object, Array of Objects, this Pointer.
- 5) Classes and Objects (08)**
Class Specification, Defining Members, Object, Access Specifier, Constructors, types of Constructors, destructor, Friend Class and Friend Function
- 6) Inheritance (06)**
Types Of Inheritance, Member Accessibility, Visibility Modes, Virtual Base Class, Benefits of Inheritance, Virtual & Pure Virtual functions, Abstract class.
- 7) Operator Overloading (06)**
Rules, Unary & Binary Operator Overloading using friend functions, without using friend functions
- 8) Templates & Exception Handling (04)**
Class template, Function template, Exception handling constructs.
- 9) Stream Computation (06)**
Stream Computation with console, Streams computations with Files.

REFERENCE BOOKS:

1. Mastering C++ by K R Venugopal, Rajkumar, T Ravishankar, Publication - TMH
2. Exploring C++ by Yashwant Kanetkar
3. Object Oriented Programming using C++ by W. Balguruswamy, Publication - TMH
4. The C++ Programming Language by Bjarane Stroustrup,



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.4: Principles of Management

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

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- 1) Nature & Development of Management (06)**
 - a) Management : Concept, Nature, Importance
 - b) Evolution of Management: Introduction to Scientific Management by Taylor, Administrative Management by Fayol, Contribution of Peter Drucker
 - 2) Management Functions - I (12)**
 - a) Functions of Management, Levels of Management, Managerial Skills & roles
 - b) Planning: Nature, Scope, Objective and Significances of Planning, Key factors to planning, Types of Plans, Process of Planning.
 - c) Decision Making – Types of Decision , decision making processes, Individual Vs Group decision making, Information Technology & Decision Making
 - 3) Management Functions - II (12)**
 - a) Organizing: Concept, Organization Structure, Forms of Organizational Structure, Departmentation- need, importance & bases of Departmentation, Span of Control - Determination of factors affecting Span of Control, Delegation of Authority, Authority & Responsibility, Line & Staff, and Formal & Informal Organization.
 - b) Staffing: Concept, Manpower Planning.
 - c) Directing: Concept, Direction and Supervision, Importance of Directing, Principles of Directing.
 - d) Coordination – Need & Importance, Coordination & Cooperation,
 - e) Controlling : Concept, Types of control.
 - 4) Management Practices (05)**

Concepts of – Kaizen, Six Sigma, Theory Z, SWOT analysis, Business Process Outsourcing, Knowledge management
 - 5) Organizational Communication Skills (15)**
 - a) Meaning & Importance of Organizational Communication
 - b) Internal communication: Notice, Circular, Memo.
 - c) External Communication – Enquiries, Quotations, Bank & Financial Institutions
 - d) Letter writing: Layout of Business letter, types of layouts, Essentials of Good Business letters, Attitude in Business writing
 - e) Purpose of letters: Resume, Application
 - f) Reading Skills: Rapid Reading, Comprehension.
 - g) Speaking Skill: Speech-preparation, Guidelines for Effective speech
 - h) Listening Skill: Importance, Process, and Barriers & Guidelines for Effective Listening.

- i) Presentation Skill: Types of Presentations, Propositions about presentations, Types of delivery, Process of Preparing & Delivering.
- j) Interview : Types, Preparation, Conducting and Appearing for interview
- k) Drafting Skills: Documents, Policies, Procedures, Rules, Note taking etc.

REFERENCE BOOKS:

1. Koontz – Principles Of Management (Tata Mc Graw Hill, 1st Edition 2008)
2. Stoner , Freeman & Gilbert Jr – Management (Prentice Hall Of India ,6th Edition)
3. Robbins & Coulter – Management (Prentice Hall Of India,8th Edition)
4. Robbins S.P And Decenzo David A. – Fundamentals Of Management : Essential Concept And Applications (Pearson Education ,5th Edition)
5. L.M.Prasad – Principals Of Management (Himalaya Publications)
6. Dr. Manmohan Prasad – Management – Concepts & Practices (Himalaya Publications)
7. Wehrich Heinz And Koontz Harold – Management : A Global And Entrepreneurial Perspective (McGraw Hill 12th Edition 2008)
8. Business Communication for Managers By Penrose / Rasberry / Myers, Cenage Learning.
9. Business Communication by Raman & Singh, Oxford Publication.
10. Business Communication – C.S. Raydu – Himalaya Publishing House



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.5: Financial Accounting for Manager

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- | | |
|---|-------------|
| 1) Basic Concepts: | (06) |
| a) Accounting Concepts & Conventions. | |
| b) Accounting Standards : As 1, As 2, As 3, As 4, As 5, As 6, As 7, As 8, As 9, As 10 | |
| 2) Elements of Accounts: | (10) |
| a) Types of Accounts | |
| b) Journals, Ledgers, Trial Balance, Cash Book | |
| c) Adjustment Entries And Final Account of Sole Traders | |
| 3) Rectification of Errors | (04) |
| 4) Bank Reconciliation Statement: | (06) |
| Need, Causes of Disagreement, Preparation of Bank Reconciliation Statement | |
| 5) Tally Accounting Package | (24) |
| a) Introduction To Tally : | |
| i) Features Of Tally Software (Version 9.2) | |
| ii) Starting Tally - Gateway Of Tally And Exit From Tally | |
| iii) Company Creation In Tally, Saving The Company Profile, Alteration / Deletion Of Company, Selection Of Company | |
| iv) Account Groups And Ledgers | |
| v) Hierarchy Of Account Groups And Ledgers, Reserved Account Groups, | |
| vi) Account Groups Of Balance Sheet – Account Groups Of Liabilities & Assets | |
| vii) Account Groups Of Profit & Loss Account - Account Groups Of Direct Income And Direct Expenses Apart From Sale And Purchases, Indirect Income And Indirect Expenses | |
| viii) Account Masters - Account Groups Creation And Account Ledgers Creation | |
| ix) Feeding Of Opening Balances | |
| x) Alteration / Deletion Of Account Master Records | |
| xi) Feeding Of Closing Stock Value | |
| b) Tally: Voucher Entry | |
| i) Types Of Vouchers In Tally - Contra, Receipts, Payments And Journal | |
| ii) Entering Account Voucher - Sales, Purchases, Debit Note, Credit Note, Incomes, Expenses, Voucher Modification, Saving The Voucher | |
| iii) Voucher Alteration, Deletion And Cancellation, Single Mode Voucher Entries, Account Voucher Printing - Online Voucher Printing, Multi Voucher Printing | |
| iv) Displaying Voucher List, Day Book, Ledger | |
| v) Extracting Daybook Summaries | |
| c) Tally: Trial Balance And Final Accounts | |
| i) Extracting Detailed Trial Balance, Exploded Trial Balance And Ledgerwise Trial Balance | |
| ii) Extracting Balance Sheet - Primary Balance Sheet , Detailed Balance Sheet | |
| iii) Closing Stock Value Entry Through Balance Sheet | |
| iv) Extracting Profit And Loss Account - Detailed Form And Vertical Form, | |
| v) Extracting Income And Expenditure Statements For Non-Trading Units | |

REFERENCE BOOKS:

1. Fundamentals of Accounting, S.N & S.K Maheshwari – Vikas Publications
2. Advanced Accountancy – Shukla & Grewal – Sultan Chand & Sons
3. Advanced Accountancy – Tulsian – Tata McGraw Hill
4. Financial Accounting – Ashok Banerjee – Excel Books
5. Implementing Tally 9, Comprehensive Guide – A. K. & K. K. Nandani, BPB Publishers, New Dehli
6. Tally 9.2 - Comdex Publisher
7. Practical Approach towards Tally 8.1 & 9 S. H. Sharma , Siddhant Prakashan, Aurangabad



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

Paper: 1.6: Lab I (1.1 & 1.2)

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

Practical Assignments on 1.1 Web Designing & Web Tools

- 1) Developing a web page using
 - a) Basic HTML tags
 - b) List , Hyperlinks
- 2) Develop a web page
 - a) Tables
 - b) Forms
- 3) Design a web page using
 - a) Frames
 - b) CSS
 - i) Demonstrate Internal CSS
 - ii) Demonstrate External CSS
- 4) Develop a web page using Dream Weaver.
- 5) Create website using flash elements in Dreamweaver
- 6) Develop fully integrated web site using XHTML & Flash CS-3 & Dream weaver.

Practical Assignments on 1.2 Operating Systems

- 1) Demonstration of basic operation of XP like file handling, device mgt etc.
- 2) Write a program to implement
 - a) FCFS Scheduling Algorithm. using C++
 - b) SJF Scheduling Algorithm. (Non preemptive) using C++
 - c) RR Scheduling Algorithm. using C++
- 3) Write a program to calculate total swap time.

Linux

- 4) Demonstration of Linux commands with attributes:
pwd, cd, ls, more, less, head, tail, cat, echo, clear, kill, ps, find, grep, man, chmod, cal, date, cut, paste, who, who am I, wall, wc, pr, mkdir, rmdir, rm, sort, tar, tty, users, groups, cmp
- 5) Write a shell script to display first 20 terms of Fibonacci series.
- 6) Write a shell script to display message according to current time.
- 7) Write a shell script to create two separate file for even and odd lines from given file.



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.7: Lab I (1.3 & 1.5)

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

Practical assignments on 1.3 Object Oriented programming using C++

1. Write C++ program to demonstrate the use of function.(call by value & call by reference)
2. Write a C++ program to demonstrate function overloading
3. Write a C++ program to demonstrate operator overloading using friend function.
4. Write a C++ program to demonstrating the use of constructors and destructor
5. Write a C++ program to demonstrate the Single & multiple inheritances.
6. Write a C++ program to demonstrating Pointers to Function & Pointer to object
7. Write a C++ program to demonstrate the use of virtual function
8. Write a C++ program to demonstrate the concept of function template & class template.
9. Write a C++ program to demonstrate Exception Handling
10. Write a C++ program to demonstrate File handling.

Practical assignments on 1.5 Talley 9.2

1. Creation of company, Alter and Shut Company, Delete the existing company and show the company details.
2. Creation of Groups, Alter the Groups and deletion of Group and Display Groups.
3. Creation of Ledger A/c's, Display and Alter the Ledger A/c's, Deletion of Ledger a/c's.
4. Demonstrate different types of voucher entries and display Profit & Loss A/c and Balance Sheet.
5. Creation of stock groups, stock Item and also stock category with unit of measurements.
6. Creation of Purchase order and sales order.
7. Demonstrate of Value Added Tax (VAT) using Voucher Entry.
8. Showing Ledger wise Trial-Balance of a Company
9. Showing detailed Profit & Loss Account & balance Sheet of a Company
10. Showing Income & Expenditure Statements for Non Trading Concerns.



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM) (w.e.f. June -2010)

SEMESTER: I

1.8: Computer Fundamentals & Hardware/Software Installation

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 1) **Computer Fundamentals** (02)
Definition, types of computer, characteristics & block diagram of computer.
- 2) **Introduction to I/O & storage devices** (03)
 - a) Input - Keyboard, mouse, scanner, web camera
 - b) Output - Printer- dot-matrix; Inkjet & laser, monitor, Speakers
 - c) Storage -HDD, CD, Pen drive & DVD, Blue-ray, Memory Card
- 3) **Introduction to Computer Languages** (02)
Machine language, Assembly language, High level language & 4 GL.
- 4) **Introduction to Microprocessor** (04)
Block diagrams of 8085 & 80586 microprocessors.
- 5) **Introduction to viruses & vaccines and Communication** (03)
 - a) Meaning of viruses
 - b) Effects of viruses
 - c) Role of antivirus, spy ware & firewall.
 - d) Types of Communication: simplex, duplex
- 6) **Unit VI : Hardware/Software Installation** (04)
- 7) **Assembling of computer –**
Mother Board, Processor, PCI slots, ISA Slots, PCI Cards, AGP Cards, SMPS AT/ATX, Peripheral Devices, COM Ports, Serial Ports, USB Ports, Data Cable
- 8) **Software Installation** (06)
 - a) Operating systems Installation & Configuration: Windows vista/XP, Linux – Red hat.
 - b) Installation of MS- Office,
 - c) BIOS Configuration
 - d) Installation of Anti viruses programs, spy wares & firewalls
- 9) **Hardware Installation :** (04)
 - a) Installation of I/O devices
 - b) Web camera
 - c) Scanner
 - d) printer (including network printer)
- 10) **Installation of drivers of I/O devices** (02)
- 11) **Networking Installation :** (06)
 - a) Establishment of LAN and its management (privileges, IP management).
 - b) Accessing remote computer & peripherals using LAN.
 - c) Setting up TCP/IP, Mac ID
- 12) **Client server Installation :** (03)
 - a) Installation of front end & back end tools.
 - b) Installation & activation of Internet
 - c) Installation of modem
 - d) Installation of IP sharer
- 13) **Computer management – System tools, storage, services and application** (02)
- 14) **Troubleshooting** (08)
Data Recovery, Ram Problem, HDD Problem, VGA Problem, Boot Device not detected, beep code, SMPS Problem, Data Recovery in Computer Dead mode, Automatic Restart

REFERENCE BOOKS:

1. Fundamentals Of Computer by V. Rajaraman.
2. Computer Fundamental by P. K. Sinha.
3. Understanding Linux by B. H. Barhate.
4. Red hat Linux by Sandip Bhattacharya, Rocks Publication.
5. MS Office – Microsoft Press



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FACULTY OF COMMERCE & MANAGEMENT

STRUCTURE OF MASTER IN BUSINESS MANAGEMENT (COMPUTER MANAGEMENT)

MBM (COMPUTER MANAGEMENT)

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1.2	Operating Systems	2.2	DBS & SQL Server 2008
1.3	Object Oriented programming using C++	2.3	Introduction to Animation and Flash
1.4	Principles of Management	2.4	Management Information System & ERP
1.5	Financial Accounting for Manager (Tally 9.2)	2.5	Management Accounting
1.6	Lab- I (1.1 & 1.2)	2.6	Lab – III (2.1 & 2.2)
1.7	Lab – II (1.3 & 1.5 (Tally 9.2))	2.7	Lab – IV (2.3)
	B: Qualifying Non-Credit Course		B: Qualifying Non-Credit Course
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3.2	Organizational Behaviour	4.2	Information Security & Cyber Laws
3.3	Functional Elective Paper 1	4.3	Functional Elective Paper 4
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3.5	Functional Elective Paper 3	4.5	Functional Elective Paper 6
3.6	Lab – V (3.1 & 3.4)	4.6	Lab - VII (4.1 & 4.4)
3.7	Lab – VI (3.5)	4.7	Lab – VIII (4.5)
3.8	Information System Audit (ISA)	4.8	Project

Functional Electives for Semester-III and IV (w.e.f.-June 2011)			
Paper	A (Web Management)	B (Application & Database Management)	C (Graphics & Animation)
3.3	Web Mining Concepts	Database Administration & Security	Introduction to Designing & Graphics
3.4	Scripting Languages	Java	Digital Graphics Design
3.5	C#.NET	VB.Net	3D Animation using Houdini
4.3	Website Management & Services	Data Mining & Data Ware Housing	Advanced Computer Animation
4.4	ASP.NET	Oracle & D2K	Post Production Processes for Animation
4.5	PHP & AJAX	J2EE & J2ME	3D Animation using Maya

Note : The student has to opt for one Specialization from amongst the offered groups of subjects under A, B or C for both the semesters 3rd & 4th. No change in specialization opt for 3rd sem. shall be allowed during the 4th sem.



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.1: Ruby Programming Language

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 1) **Ruby Programming language:** (04)
 - a) Meaning and importance of ruby as a programming language
 - b) download and installation, interactive ruby and editors-SciTE, FreeRIDE,.rb file
 - c) Case sensitive, Comments, Statement delimiters, Documentation
 - d) Operators (with precedence and associatively rules)
 - e) Concept of an object and that everything is an object in Ruby, Polymorphism, Encapsulation, Nested classes, Object class and its methods, Usage of puts, gets methods, Ruby conventions, Garbage collection
- 2) **Variables, Constants and numbers** (03)
 - a) Name characters, Variables – local, instance, class, global
 - b) Constants naming and the scope of constants
 - c) Naming conventions, dynamically typed, Usage of method type
 - d) Number: Concept and usage with Class Numeric,
 - e) Datatypes: Float, Integer, Fixnum and Bignum, rand method
- 3) **Arrays & Strings** (08)
 - a) Basic Arrays, Class Array methods like addition and concatenation, subtraction and difference, include?, accessing first and last elements of array, delete, sort, length and each using do...end (delimiters)
 - b) String literals using single- and double-quotes and their differences, Usage of #{expression},
 - c) Conversions using .to_i, .to_f, .to_s, Usage of <<, Concept of symbols
 - d) Class String methods like chomp, reverse, length, upcase, downcase, swapcase, capitalize, strip, length, index, slice, upcase!, downcase!, swapcase! and capitalize!.
- 4) **Ranges and Hashes** (06)

Ranges, Basic Hash Methods – clear, delete, delete_if, each, each_key, each_value, empty?, has_key?, keys, length, to_a and values. Hashes within hashes (nested Hashes)
- 5) **Looping and Flow Control Statements** (02)

If else end elsif, while end, case when end, ternary Operator(?:,)
- 6) **Regular Expressions & Methods** (04)
 - a) Regular Expression ([] , \w , \W , \s , \S , \d , \D , \b , \B , * , + , {m,n} , ? , | , ())
 - b) Methods: Writing own methods using def end, class and instance methods (with getter and setter), return and concept of value returned by last statement in a method, variable number of parameters using *
- 7) **Code Blocks** (03)

Using do...end and { }, Usage of yield method, Concept of Procs and it's method - lambda method
- 8) **Writing a class** (10)
 - a) User defined class: initialize, new methods, Access modifiers private and protected
 - b) Standard classes: Class, usage of Dir, Time, Range, IO, Math
 - c) Usage of attr_reader, attr_writer, attr_accessor, Concept of inheritance and using <, Using super
- 9) **Exception handling** (06)
 - a) Exception basics, types of exception handling
 - b) Exception class and its hierarchy, begin rescue ensure end
- 10) **Concepts under Ruby** (04)
 - a) Duck typing
 - b) Unit testing
 - c) Ruby on rails
 - d) Modules

2.1: Ruby Programming Language

REFERENCE BOOKS:

1. Beginning Ruby by Peter Cooper - Dreamtech press publication
2. Programming Ruby by Dave Thomas
3. Learn to Program by Chris Pine
4. Ruby For Rails by David Black



North Maharashtra University, Jalgaon

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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.2: DBS & SQL Server 2008

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

-
- | | |
|--|-------------|
| 1) Database Systems | (02) |
| a) Definition of DBMS | |
| b) File processing system Vs DBMS | |
| c) Limitation of file processing system | |
| d) Advantages and Disadvantages of DBMS | |
| e) Database Users | |
| 2) Data Models | (03) |
| a) Relational Model | |
| b) Network Model | |
| c) Hierarchical Model | |
| d) Entity Relationship Model | |
| 3) Entity Set | (03) |
| a) Attribute | |
| b) Relationship Set | |
| c) Entity Relationship Diagram (ERD) | |
| d) Keys: Super, Candidate, Primary , Foreign Key | |
| 4) Relational Database Design | (06) |
| a) Introduction | |
| b) Anomalies of un normalized database | |
| c) Normalization | |
| d) Normal Form:1 NF, 2 NF, 3 NF | |
| 5) SQL (Structured Query Language) | (02) |
| a) Introduction | |
| b) Basic Structure | |
| c) DDL Commands | |
| d) DML Commands | |
| 6) Introduction to SQL Server 2008 | (08) |
| a) New features of SQL Server2008 - Intellisense, Encrypting Databases, Auditing All Actions, Data Type Enhancements, Processing of delimited strings, Plan Freezing, Resource governor, Filtered indexes, compression editing, Auditing, C like math syntax, Inline variable assignment, Plug-in model for SSMS, Managing Workloads with Resource Governor, Managing Performance with the Data Collector, Managing Performance with Plan Freezing | |
| b) Preparing for SQL Server 2008, Data Mining with SQL Server Analysis Services | |
| c) Data Types | |
| d) Creation of database | |
| e) Databases: Files, File groups | |
| f) Modifying database | |
| 7) Creating tables and enforcing data Integrity | (04) |
| a) Creating table using different constraints like Primary Key, Foreign Key, Check , NULL,NOT NULL | |
| b) Alter Table, Drop Table & Truncate Table | |

- 8) Database Functions and Operators (04)**
- a) Aggregate functions
 - b) Date time functions
 - c) String functions
 - d) Arithmetical functions
 - e) Operators: Logical and Relational
- 9) Joins and Subqueries:**
- a) Joins: Equi, Self, Inner, Outer Join
 - b) Subqueries: using IN, EXISTS and nested subquery
- 10) Stored Procedures and functions (06)**
- a) Benefits & Types of Stored Procedures
 - b) Types of parameters
 - c) Executing & Deleting Stored Procedures
 - d) Creating, using and deleting functions
- 11) Triggers (05)**
- a) Types of triggers including DDL & DML Trigger
 - b) Creating, Viewing, Modifying and Deleting Triggers
- 12) Error Handling: (02)**
- Using @@ERROR function, RAISERROR statement, TRY...CATCH Statement

Note: Topics from topic no. 6 and onwards (with practical) should be taught using SQL Server.

REFERENCE BOOKS:

1. Database System Concepts :- Abraham Silberschatz, Henry F. Korth & S. Sudarshan, McGraw-Hill
2. SQL Server 2008 in Simple Steps by Kogent Learning Solutions Inc., Dreamtech Press Publication
3. SQL Server 2008 Programming – Rob Vieira – Willy Wrox
4. Microsoft SQL Server 2008 Bible, TMH
5. SQL Sever 2008, The complete Reference, TMH
6. SQL Server 2008 Blackbook, BPB Publishers



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.3: Introduction to Animation and Flash

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

-
- 1) Introduction to Animation: (04)**
- a) What is Animation, History of Animation
 - b) Principle of Animation
 - c) Types of Animation & Animation Tech.
 - d) Classical Animation, Stop Animation, Clay animation, Frame Animation
 - e) Cell Animation.
 - f) Components used for designing animation such as light box, Live Shooting, Love Photography, Croma Shoot,
 - g) Techniques of story boarding for digital film making
 - h) Understanding vector animation
 - i) Use of Animation in Industries
 - j) Concept of 2D, 3D animation
- 2) Flash CS3: Flash CS3 Revisited (02)**
- 3) Flash CS3: Working with Graphics: (02)**
- a) Grouping of Elements
 - b) Working with Text
 - c) Creating a static text field, Creating a Dynamic text field, Creating a Input text field, Editing Text Field-Scrolling the Text, Breaking Apart The Text
 - d) Working with Library
Importing Library , Library properties, Common Library, Creating own Library
 - e) Working with Colors
Color mixer, creating gradients, opacity of gradients, creating custom gradients
 - f) Working with graphics
Importing & working with Bitmaps, Jpeg, gif, etc, Break apart
- 4) Flash CS3: Creating Flash Elements: (06)**
- a) Working With Object
 - i) Drawings, creating, moving, drag, cutting, copying, and selecting objects.
 - b) Transforming Objects
 - i) Transforming an object freely, Distorting an object, Modifying an object with envelope modifier, Scaling an object, Rotating & skew an object, Flipping an object, restoring a transformed object.
 - c) Working With Symbol & Instances
 - d) About the symbol, creating and deleting symbols, duplicate and modify an instance of a symbol
 - i) Types of Symbol- Movie clip, Button, Graphic
 - ii) Creating Dynamic Buttons, editing buttons, converting an existing into a movie clip, placing movie clip symbol inside the button symbol.
 - e) Marking Positions
What is Onion Skinning & its Types & uses.
- 5) Flash CS3: Working with Layers: (06)**
- a) Introduction to layers,
Hide & Show Layers ,Lock a Layer, Add and name layer, change the orders of layers, organize layers in folder.
 - b) Type of Layers-Guide layer, Mask layer, layer properties
Masking Animation, Masking Frame by Frame

- 6) Flash CS3: Tweened Animation: (05)**
- a) Motion Tween Animation
 - i) Creating motion tween-setting the property of tweening object,additional tween on existing layer
 - ii) Editing the motion path of an tween – changing the position, location, deleting the motion path, applying motion preset,
 - b) Shape tween Animation: Creating shape tween-setting the property of tweening object,additional tween on existing layer
 - c) Applying Path, orient to path
 - d) Frame by Frame Animation:Creating frame by frame animation
- 7) Flash CS3: Effects: (03)**
- a) Timelines Effect
 - b) Using Alpha, Blur, Glow, Bevel, Drop Shadow
 - c) Adding effects to Buttons
- 8) Flash CS3: Action Script (04)**
- a) Introduction to Flash Action Script
 - b) Add a script to button by using script assist mode
 - c) Add frame scripts to timeline by using script assist mode
 - d) Add a frame script to the title movie clip
- 9) Flash CS3: Action Script:**
- a) **Action Script: Adding Interactivity (04)**
 - i) Setting up your workspace
 - ii) Name button instances ,Add a scene, Move between buttons with the stop() action .
 - iii) Link the buttons to the scene
 - iv) User behaviour to play an MP3 file
 - b) **Create a form with conditional logic: (08)**
 - i) Add an input text field to collect from data
 - ii) Add submit button to the form
 - iii) Add an error() message
 - iv) Add a confirmation message
 - v) Add a stop() action
 - vi) Add conditional logic for the submit button
 - vii) Write a function for Try Again button
- 10) Flash CS3: Working with Sound & Video (02)**
- a) Working with sound: Importing Sound file, adding sound to the timeline, adding sound to button, editing sounds,
 - b) Working with Video: Importing & Editing a video file
- 11) Flash CS3: Flash Web Templates (03)**
- a) Creating Interactive Webpage
 - b) Optimizing Movies & Exporting movies for the web exporting files
- 12) Flash CS3: Publish flash documents (02)**
- a) Using different publishing formats
 - b) Using publishing profiles
 - c) Adding flash player detection
 - d) Publishing for deployment

REFERENCE BOOKS:

- 1) Flash CS3 in Simple Steps – Kogent Learning Solutions – Dreamtech Press
- 2) Flash 8-Straight to Point by Dinesh Maidasani -Firewall Media Publisher
- 3) Macromedia Flash 8: A Tutorial Guide, author- Jay Armstrong, Jen deHaan- BPB Publisher
- 4) Flash MX BIBLE (By BPB Publisher)



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.4: Management Information System & ERP

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

1. Fundamentals of Management Information Systems (08)

- 1.1. Concepts, Classification & Value of Information
- 1.2. Information System : Open & Closed
- 1.3. Management Information System
 - 1.3.1. Definition, Concepts & Meaning
 - 1.3.2. Components & Activities
 - 1.3.3. Types – Operation support system & Management support systems
 - 1.3.4. Control systems – Feedback & Feed forward systems
 - 1.3.5. MIS planning process – Steps in planning
 - 1.3.6. MIS design & Development Process – Phases
 - 1.3.7. Components of MIS
- 1.4. MIS vis-à-vis Computer, Academics & Users
- 1.5. MIS vis-à-vis Information Concepts , System Concepts

2. Process of Management Information System (08)

- 2.1. System Analysis & Design
 - 2.1.1. Introduction & Need for System analysis
 - 2.1.2. System analysis of a new requirement
 - 2.1.3. Structured systems analysis & Design (SSAD)
- 2.2. Development of MIS
 - 2.2.1. Introduction & Contents of MIS Long range plans
 - 2.2.2. Determining the information Requirement
 - 2.2.3. Management of Quality in the MIS
 - 2.2.4. Factors contributing in the Success & Failure of MIS

3. Application of Management Information System (10)

- 3.1. Business Processes : Primary, Supportive & Administrative
- 3.2. MIS in functional area
 - 3.2.1. MIS & Manufacturing sector
 - 3.2.2. Marketing Information System
 - 3.2.3. Accounting Information system
 - 3.2.4. Human Resource Information System
- 3.3. Transaction Processing System
- 3.4. Concept of Knowledge Based Expert System
- 3.5. Concept of Artificial Intelligence
- 3.6. Knowledge Management: Concepts , Benefits & Application

- 4. Support System (06)**
- 4.1. Decision Support System (DSS): Concept, Philosophy, Characteristic, Classes, Users of DSS
 - 4.2. Executive Support System (ESS) : Introduction, Components & Architecture
 - 4.3. Office Information System: Document management & Communication system
- 5. Enterprise Resource Planning (08)**
- 5.1. Concept/System
 - 5.2. Drivers for implementing ERP
 - 5.3. ERP architecture
 - 5.4. ERP Solution Structure: Business operations, Technology & Implementation
 - 5.5. Benefits of ERP
 - 5.6. ERP Selection: Vendor evaluation, Technology evaluation & Solution evaluation
 - 5.7. ERP Implementation: Customization & Precautions
 - 5.8. Problems encountered with ERP
 - 5.9. Service process optimization: Service processes & its benefits
 - 5.10. ERP in the twenty-first century
- 6. ERP – Technologies & Application (06)**
- 6.1. Material Requirement Planning (MRP-I)
 - 6.2. Manufacturing Resource Planning (MRP-II)
 - 6.3. Business Process Re-engineering
 - 6.3.1. Meaning, Necessity & Principles
 - 6.3.2. Application of re-engineering
 - 6.3.3. Three R's – Rethink, Redesign & Retool
 - 6.3.4. Quality & re-engineering
 - 6.3.5. Benefits & Limitations of re-engineering
 - 6.4. Geographical Information Systems (GIS)
- 7. ERP Case Studies: Post implementation review of ERP Packages in Manufacturing, Services, and other Organizations (04)**

REFERENCE BOOKS:

- 1) Management Information System by Jawadekar – Tata McGraw Hill
- 2) Management Information System by Arora – Excel Books
- 3) Management Information System by Davis & Gordon - Tata McGraw Hill
- 4) Management Information System by James O'Brian & George M Marakas - Tata McGraw
- 5) Management Information Systems Managerial Perspectives- D P Goyal – Macmillan
- 6) Management Information Systems – S. Sadagopan- PHI
- 7) Business Process Reengineering by K Sridhar Bhat – Himalaya Publishing House
- 8) Management Information System by C S V Murthy – Himalaya Publishing House
- 9) Enterprise Resource Planning by Alex Leon - Tata McGraw Hill
- 10) Enterprise Resource Planning (Concept & Practices) by Garg, Venkitkrishnan – PHI



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.5: Management Accounting

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

-
- | | |
|--|-------------|
| 1) Costing- | (04) |
| a) Meaning, Concept, | |
| b) difference between financial accounting and cost accounting, | |
| c) preparation of cost sheet, tenders and quotations | |
| 2) Introduction to managerial accounting | (02) |
| a) Difference between managerial accounting and Financial Accounting | |
| b) Uses of managerial accounting | |
| 3) Introduction to working Capital(simple problem only) | (06) |
| a) Concepts: Gross and Net, Permanent & Temporary, Operating Cycle | |
| b) Disadvantages of insufficient Working Capital | |
| c) Factors Determining Working Capital Requirement | |
| d) Estimation of Working Capital Requirement | |
| 4) Introduction to fund flow and cash flow statements (simple problem only) | (08) |
| a) Concept of Funds, Funds flow statement, & Cash flow statement | |
| 5) Introduction to ratio analysis (simple problem only) | (08) |
| a) Liquidity Ratios, Profitability Ratios, Solvency Ratios, Activity Ratios | |
| b) Limitations of Ratio Analysis | |
| 6) Management of Inventory- (simple problem only) | (04) |
| a) EOQ, Reorder Level, Maximum Level, Minimum Level, Safety level | |
| b) ABC Analysis | |
| 7) Budget & Budgetary Control: (simple problem only) | (08) |
| a) Concept, Objectives, & Limitations | |
| b) Cash Budget, Flexible budget, Sales Budget, purchase budget | |
| 8) Introduction to marginal costing and break Even Analysis | (08) |
| a) Concept of Marginal Cost: Contribution, Variable Cost, Fixed Cost, Margin of Safety, PV Ratio | |
| b) Assumptions of Break Even Analysis & Calculations of Break Even Point | |

REFERENCE BOOKS:

1. Management Accounting – Khan, Jain - Tata Mcgrew Hill
2. Management Accounting- RSN Pillai, V. Bagavathi -Vikas
3. Management Accounting – M P Pandikumar - Excel Books
4. Financial Management – Khan & Jain – Tata Mcgrew Hill
5. Management Accounting –J. Madegowda
6. Cost Accounting (Theory & Practice)- B.K. Bhar



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.6: LAB III (2.1 & 2.2)

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

Practical based on 2.1 Ruby Programming Language

1. Write a program to print "Hello World" given number of times.
2. Demonstrate use of different operators in Ruby.
3. Demonstrate use of looping and conditional constructs.
4. Demonstrate use of string methods.
5. Demonstrate different types of constructors.
6. Demonstrate different types of inheritance.
7. Demonstrate use of exception handling.
8. Demonstrate command line arguments.
9. Demonstrate overriding of methods.
10. Demonstrate use of abstract class.
11. Demonstrate use of singleton method.

Practical based on 2.2 DBS & SQL Server 2008

1. Demonstration of creating database and table.
2. Defining different types of database constraint.
3. Manipulation of data.
4. Query based on operators and joins
5. Simple and nested query
6. Demonstration of stored procedures and triggers
7. Creating DML & DDL triggers
8. Demonstrate the Use of @@error & RAISERROR



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SEMESTER: II

2.7: LAB IV (2.3)

60 + 40 Pattern: External Marks 60 +Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

- 1) Creating scene with an cartoon drawing .
- 2) Demonstrating use of frame by frame Animation.
- 3) Demonstrating use of symbols and Filters.(Use Motion Tween Animation)
- 4) Drawing a house with a pencil.(Use Shape Tween Animation)
- 5) Demonstrating use of Guide Layer & Mask Layer.
- 6) Creating an e-Card of Birthday Wishes.
- 7) Create a banner for Website.
- 8) Demonstrating Motion of Animal (Any Animal Walking, Running etc.)
- 9) Creating Animation facial expression with the help of smiley.
- 10) Create a carton animation using light box and converting it into flash Animation .
- 11) Create Flash Website Template.
- 12) Create an Advertisement.
- 13) Create a Flash presentation on any current issues. (Global warming, air pollution, no smoking, save trees etc.)
- 14) Create a snowfall using Action script in flash.



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FACULTY OF COMMERCE & MANAGEMENT

M.B.M. (CM). (w.e.f. Dec. -2010)

SEMESTER: II

2.8: Research Methodology & Statistical Tools

60 + 40 Pattern: External Marks 60 + Internal Marks 40 = Maximum Total Marks: 100

Required Lectures: 50 hours

-
- 1) **Research Methodology** (05)
 - a) Meaning, Objective, Importance & Types of Research
 - b) Research Process
 - c) Features & Criteria of Good Research.
 - 2) **Research Problem** (04)
 - a) Formulation of Research problem
 - b) Techniques involve in Defining a problem
 - c) Literature Survey
 - 3) **Research Design** (05)
 - a) Meaning & Need for Research Design
 - b) Feature of Good Research Design
 - c) Types of Research Design
 - 4) **Sampling Design** (06)
 - a) Sampling Terminology
 - b) Sampling Methods
 - i) Probability Sampling: Simple random, Systematic, Stratified, Cluster, Area, Multi-stage, Proportional, Sequential sampling.
 - ii) Non-probability Sampling: Convenience, Quota, Snowball, Judgment
 - 5) **Data Management** (06)
 - a) Data Collection
 - i) Types & Sources of Data: Primary & Secondary
 - ii) Methods of Data Collection: Observation, Interview, Questionnaire, Schedule & Survey Method
 - iii) Guidelines for Constructing Questionnaire/ Schedule, Choice of Questions
 - 6) **Hypotheses** (04)
 - a) Hypothesis: Meaning, Importance & Types of Hypothesis
 - b) Criterion of Good Hypothesis
 - c) Procedure for Hypotheses Testing
 - d) Tests of Hypothesis, parametric vs. non-parametric tests
 - e) Type-I Error, Type-II Error.
 - 7) **Statistics-** (12)
 - a) Meaning, types, Methods of studying correlation,
 - b) Coefficient of correlation –Karl Pearson method, Scatter diagram.
 - c) Regression, Meaning, Simple regression,
 - d) tests of significance for small samples, application, t-test, ANOVA – one way and two way
 - e) Chi-square test (Simple problems)
 - 8) **Use of Software package :** (04)
 - a) Use of Software Package for data analysis,
 - b) Basic statistical tests using SPSS/MS office Excel,
 - c) Diagrammatic and graphical presentation of data using SPSS/ MS office Excel.

9) Interpretation & Report Writing

(04)

- a) Interpretation: Meaning, Techniques, Precautions
- b) Organisation Report Writing
 - i) Writing a good report, Critical elements of a report,
 - ii) Steps, Layout of the Research Report
 - iii) Types of Research Reports

REFERENCE BOOKS:

- 1) Research Methodology (Methods & Techniques) – C.R.Kothari – New age International
- 2) Methodology And Techniques Of Social Research- Wilkinson & Bhandarkar- Himalaya Publishing House
- 3) Business Research Methods- Murthy, Bhojanna- Excel Books
- 4) Management Research Methodology – Krishnaswamy, Sivakumar, Mathirajan – Pearson Education
- 5) Research Methodology – A.B. Rao - Excel Books
- 6) Business Research Methodology – J.K. Sachdeva- Himalaya Publishing House
- 7) Donald R. Cooper, Pamela S. Schindler, Business Research Methods, 8/e, Tata McGraw-Hill Co. Ltd., 2006
- 8) Statistics for Management, 7/e.- Richard I Levin amp; David S.Rubin, Pearson Education, 2005.
- 9) An introduction to Statistical Methods, 23rd Revised Edition, C.B. Gupta amp; Vijay Gupta, Vikas Publishing House, New Delhi, 2006.
- 10) Doing Data analysis with SPSS by Carver, Nash – Brooks/Cole Cengage Learning.