

University of Pune



M.C.A. Part II

w.e.f. 2010-11

Sem - III	301 302 303 304 305 306 307	Advanced Operating Systems Hardware Configuration and Solutions Enterprise Resource Planning and Management Business Strategies Cyber Law and ethics Financial and Investment Analysis Project Report And Advanced Computer Laboratory
Sem – IV	401 402 403 404 405 406 407	Advanced Data Based Management System Data Centre Technologies Web Enabling systems and Business Applications Business and Professional Skills Client Server Technologies Knowledge Management for Business Project Report And Advanced Computer Laboratory

M.C.A. (Commerce)

Part II Semester III.

Course Title -: Advanced Operating System.

Course Code -: 301

Objectives :-

1. To learn concept of advanced operating system.
2. To learn concept of windows and unix operating system.

Unit No.	Topic	Periods
1.	Overview Of Windows Programming 1.1 Brief history of windows 1.2 GUI 1.3 Multitasking advantage 1.4 Memory management 1.5 Device independent graphics interface 1.6 Win 32 API 1.7 Object –Oriented programming 1.8 Message driven architecture	2
2.	First Windows Application 2.1 Hungarian Notation 2.2 Structure of windows application 2.3 First windows program[“The hello program”] 2.4 Winmain() 2.5 Registering the window class 2.6 Creating the window 2.7 Displaying the window 2.8 Message loop 2.9 Window procedure 2.10 Processing the messages 2.11 Queued & nonqueued messages	2
3.	The WM-Paint Message 3.1 Painting with text 3.2 The WM-Paint message 3.3 Valid & Invalid Rectangles 3.4 An introduction of GDI 3.5 The device Context(DC) 3.6 Getting DC-method1 3.7 Getting DC-method2 3.8 Release DC() 3.9 Windows RGB()macro 3.10 The device Context 3.11 Getting handle to the device Context 3.12 The device Context attributes 3.13 Saving device Context 3.14 Mapping mode 3.15 Device co-ordinate systems 3.16 GDI objects	8
4.	Reading Input 4.1 The keyboard 4.2 Keyboard driver 4.3 Keystrokes & characters 4.3 Keystrokes message 4.4 The lparam variable 4.5 Virtual key codes (wparam variable) 4.6 Character messages 4.7 The caret	3

	<ul style="list-style-type: none"> 4.8 Mouse basics 4.9 Client area mouse messages 4.10 Non client area mouse messages 4.11 Capturing the mouse 4.12 Timer basics 4.13 Using timer [method 1,2,3] 	
5	Window Controls <ul style="list-style-type: none"> 5.1 Child window controls 5.2 Button 5.3 Static 5.4 Edit 5.5 List Box 5.6 Scroll Bar 5.7 Combo box 	3
6	Resources <ul style="list-style-type: none"> 6.1 Icons 6.2 Getting a handle on icons 6.3 Using icons in your program 6.4 Cursor 6.5 Using alternate cursors 6.6 Moving cursor with the keyboard 6.7 Bitmaps 6.8 Character String 6.9 Menus & Accelerators 6.10 Menu Structure 6.11 Menu & messages 6.12 Defining a menu dynamically Floating popup menus Changing the menu 	4
7	Dialog Boxes <ul style="list-style-type: none"> 7.1 Introduction 7.2 Model Dialog boxes 7.3 Dialog box template 7.4 Message boxes 7.5 Models Dialog boxes 7.6 Difference between model & models 	4
8	Introduction to UNIX OS <ul style="list-style-type: none"> 8.1 Features of UNIX 8.2 UNIX System Organization 8.3 Operating System Services 8.4 Assumption about Hardware 8.5 UNIX/LINUX Commands 	3
9	Shell Programming <ul style="list-style-type: none"> 9.1 Shell and Types of Shell 9.2 Shell Commands 9.3 Environment Variables and Shell Meta Characters 9.4 Operators and Statements used in Shell Script(Decision, Loop Control statement) 9.5 File status statements 9.6 Examples of Shell scripts 	3
10	System calls for the File System <ul style="list-style-type: none"> 10.1 Open 10.2 Read 10.3 Write 10.4 File and record blocking 10.5 Adjusting the position of file i/o 10.5 Close 10.6 File creation 	10

	10.7 Creation of special files 10.8 Change directory and change root 10.9 Change owner and change mode 10.10 Stat and fstat 10.11 Pipes 10.12 Dup 10.13 Mounting and Unmounting File System 10.14 Link 10.15 Unlink 10.16 File System Maintenance	
11	The Structure of Process 11.1 Process state and transition 11.2 Layout of system memory 11.3 The context of process 11.4 Saving the context of a process 11.5 Manipulation of a process address space 11.6 Sleep 11.7 Process control 11.8 Process creation 11.9 Signals 11.10 Process termination	8
Total		40

Recommended Books	
<ol style="list-style-type: none"> 1. Programming Windows By Charles Petzold 2. The Design of UNIX Operating System –Maurice J Bach 3. UNIX Shell Programming – Y.P Kanetkar 4. UNIX Concepts and Application – Sumitabha Das 	

M.C.A. (Commerce)

Part II, Semester III.

Course Title -: Hardware Configuration and Solution.

Course Code -: 302.

Objectives -:

1. To learn different hardware configuration.
2. To learn different configurations of devices.

Unit No.	Topic	Periods
1.	PC Hardware 1.1 Introduction of Hardware 1.2 Type of parts 1.3 Working of parts	3
2.	Installing, Administering, and Configuring MS Windows 2.1 Installation of Windows 2.2 devices drivers 2.3 boot process-desktop settings 2.4 security settings 2.5 networking Settings	6
3.	Installing, Administering, and Configuring Linux 3.1 Installation of Linux 3.2 boot process 3.3 desktop settings 3.4 security settings 3.5 networking Settings	6
4.	Troubleshooting and Preventing Problems 4.1 Logical fault isolation – ADJUST method 4.2 Common Networking Problems 4.3 Tools for gathering information 4.4 Troubleshooting PC hardware	5
5.	Network Administration 5.1 What is network administration 5.2 Study of LAN component <ul style="list-style-type: none">• File Server• Workstation• Types of Cables<ul style="list-style-type: none">Cat5 Cable andCat6 Cable Structure• Connectors• Types of switches• IEEE802.3 Ethernet• fast and gigabit• Gateways- types• Routers –<ul style="list-style-type: none">Wired and Wireless 5.3 Physical Setup of LAN <ul style="list-style-type: none">• selection of cables• cabling types• crossover cable & Straight through• Concept of color codes• Crimping tools	12
6.	Managing Network Performance 6.1 Potential network performance problems <ul style="list-style-type: none">• physical layer issues• network traffic	5

	<ul style="list-style-type: none"> • Address resolution problems • Internetworking issues 	
7.	Print Services 7.1 Prints Installation & Addition 7.2 Print ports 7.3 Print command	4
Total		41

Recommended Books	
1.	Computer Networks BY- Andrew Tanenbaum 4th Edition EEE
2.	Complete Guide to Networking By- Peter Norton Techmedia
3.	Microsoft Windows Server 2003 Administrator's Companion Charlie Russel, Sharon Crawford, Jason Geren- PHI
4.	PC/HARDWARE BY-Join Josh O`Reilly Publication

M.C.A. (Commerce)

Part II, Semester III.

Course Title -: Enterprise Resource Planning and Management.

Course Code -: 303.

Objectives -:

1. To know what is ERP
2. To learn different ERP technologies and case studies on ERP.

Unit No.	Topic	Periods
1.	ERP : An Overview 1. What is ERP. <ul style="list-style-type: none">• Reasons for Growth Of ERP• Problem areas in ERP implementations.• The future of ERP 2. Enterprise-An overview <ul style="list-style-type: none">• What is enterprise• Integrated Management Information• The role of enterprise• Business modeling• Integrated Data Model 3. Benefits of ERP.	6
2.	ERP And related Technologies <ul style="list-style-type: none">• BPR(Business Process reengineering)<ul style="list-style-type: none">• Definition• BPR –The different phases• Enterprise Redesign Principles• BPR and IT• Data Warehousing<ul style="list-style-type: none">• Data Warehouse Components• Structure and Uses of Data Warehouse• Data Mining<ul style="list-style-type: none">• What Is Data Mining• Data Mining Process• Advantages and Technologies Used In Data Mining• OLAP• Supply Change Management	6
3.	ERP Implementation 1. Evolution <ul style="list-style-type: none">• Evolution of ERP.• Evolution of Packaged Software Solutions.• The Obstacles in ERP implementation. 2. ERP Implementation Lifecycle (Different Phases). 3. Implementation Methodology. 4. ERP Implementation-The Hidden Costs. 5. In-house Implementation-Pros and Cons 6. Vendors and role of vendors for ERP 7. Consultants and role of consultants for ERP.	5
4.	Technologies In ERP System 1. Introduction 2. Electronic Data Interchange(EDI) <ul style="list-style-type: none">• Use of EDI• Evolution of EDI• Benefits of the EDI	7

	<ul style="list-style-type: none"> • EDI Standards. • EDI Services. • EDI Componets. • EDI Administration <p>3. IDoc</p> <ul style="list-style-type: none"> • IDoc Application • EDI Integration • ALE Integration • Internet Integration • OCR Integration 	
5.	The ERP Market <ol style="list-style-type: none"> 1. Vendors in the ERP Market. <ul style="list-style-type: none"> • SAP <ul style="list-style-type: none"> • SAP Architecture And Integration • SAP Business Structure • SAP R/3 System • Pepole Soft. • Baan Company • Jd Edwards • Oracle • QAD • SSA 	8
6.	ERP Present and Future <ol style="list-style-type: none"> 1. Limitations of ERP 2. EIA(Enterprise Integration Application) <ul style="list-style-type: none"> • EIA Products • Two Flavors of EIA and Messaging 3. ERP And E-Commerce 4. ERP and Internet. 5. Future Directions in ERP. 	7
7.	Case Studies On ERP <ul style="list-style-type: none"> • ERP for College • ERP for Manufacturing Company 	3
Total		42

Recommended Books
<ol style="list-style-type: none"> 1. ERP : Demystified – ALEXIS LEON(Tata McGraw Hill) 2. ERP – RAVI SHANKAR and S. JAISWAL(Galgotia)

M.C.A. (Commerce)

Part II, Semester III.

Course Title -: Business Strategies.

Course Code -: 304.

Objective -:

To Enhance decision making abilities of students in situation of uncertainty in dynamic business environment.

Unit No.	Topic	Periods
1.	Concept of Strategy 1. Definition of strategy, objective goals 2. Approaches to strategic decision making 3. Mission and purpose 4. Functional levels strategies	10
2.	Environmental Analysis and Diagnosis 1. Concepts of environment and components of environment 2. Environment scanning and appraisal 3. Organization appraisal 4. Strategic advantage analysis and diagnosis 5. SWOT Analysis	10
3.	Strategy formulation and choice 1. Integration, merger and take over 2. Factor affecting strategic choice	10
4.	Functional Strategies 1. Marketing policies 2. Production policies 3. Personnel policies 4. Financial policies	10
5.	Implementation of Evaluation of Strategies 1. Issue in strategy Implementation 2. Inter relationship between strategy formulation and implementation. 3. Strategic control- techniques of strategic evaluation of control.	08
Total		48

Recommended Books

1. Johnson & Scholes, Exploring Corporate Strategies, PHI, 6th ED, 2003
2. Bowman Cliff, Essence of Strategic Management, PHI, 2003
3. John Pearce, Strategic Management, TMH
4. Byars, Strategic Management Constant Change, McMillan India.
5. Rastogi, Management Constant Change, McMillan India
6. Ulrich, Managing Corporate Culture, McMillan India.
7. Prasad organizational development for excellence
8. Business Policies and Strategic Management Azhar Kazmi, Tata McGraw Hill
9. Strategic Management – Cherunilam, Francis

Journals :

- Management review
- Paradigm
- Smart Manager

Website :

- <http://www.sun.com/executives/reading>
- www.aif
- www.hbr.org

M.C.A. (Commerce)

Part II, Semester III.

Course Title -: Cyber Law and ethics.

Course Code -: 305.

Objectives -:

1. To learn different cyber laws
2. To know what is cyber stalking

Unit No.	Topic	Periods
1.	<u>Cyberspace and the Law: Concept and Legal Determination.</u> 1.1 Evolution of law in Cyberspace. 1.2 Insurance and the Internet. 1.3 Intellectual Property in Cyberspace. 1.4 At least two case studies on each. 1.5 Article –At least one topic.	7
2.	<u>Information Technology Act 2000.</u> 2.1 Digital Signature. 2.2 Electronic Governance. 2.3 Attribution, Acknowledgement and Dispatch of Electronic Records. 2.4 Secure electronic Records and Secure Digital Signatures. <ul style="list-style-type: none">• At least two case studies. 2.5 Regulation of certifying Authorities. <ul style="list-style-type: none">• At least two case studies. 2.6 Duties of Subscribers. <ul style="list-style-type: none">• At least two case studies.	13
3.	<u>Encryption.</u> 3.1 Meaning. 3.2 Mathematical Basis of Encryption. 3.3 Symmetric or shared key Encryption. 3.5 Symmetric & Asymmetric Cryptosystem and its Limitations. 3.6 Data Encryption Standard. <ul style="list-style-type: none">i)Triple DES.ii)Skipjack 3.7 Proprietary Algorithms. 3.8 Data Integrity. 3.9 RSA & DSA Algorithm. 3.10 Mathematical Basis of RSA. 3.11 How public cryptonyms works in Practice? - Case study. 3.12 Advantages of public key Encryption. 3.13 Elliptic curve Digital signature.	13
4.	<u>Electronic Commerce</u> 4.1 Contracts by Electronic Data Interchange. 4.2 Cyber Contracts. 4.3 E-mail. 4.4 World Wide Web (WWW). 4.5 Validity of Electronic Transactions. 4.6 Dichotomy of offer and Invitation to Treat. 4.7 Application of Mirror image rule. 4.8 Mistake in Electronic Commerce. 4.9 Place of Formation of Contract 4.10 Jurisdiction 4.11 Identities of Parties	7
5.	<u>Cyber Stalking</u> 5.1 A real problem in the virtual world.	05

	5.2 Victims of Stalking 5.3 Cyber Stalking 5.4 Cyber Stalking in India 5.5 What is online Harassment? 5.6 Extend of Cyber Stalking 5.7 The Nature of Cyber Stalking a) E-mail Stalking b) Chat Stalking c) Bulletin Board System d) Computer Stalking e) United States & other countries 5.8 The communications Act of 1996 - Section 23 5.9 At least two Case Studies on each topic	
6	<u>Cyber Crimes</u> 6.1 Classifications of Cyber Crimes 6.2 Computer as target of the crime 6.3 Computer as an Instrument of crime 6.4 Computer as an Incidental to crime a) Internet Crimes b) Web Based Crimes 6.5 Target of Computer crime 6.6 Challenge of cyber crimes 6.7 Indian Scheme of offences & punishment 6.8 Computer Virus 6.9 User Datagram Protocol(UDP) attack 6.10 Internet Control Message Protocol(ICMP) attack 6.11 At least two Case Studies on each topic	05
Total		50

Recommended Books	
1.	Cyber Law in India — Dr. Farooq Ahmad (Published By- Pioneer Books)
2.	Guide to Cyberlaws — Rodney D.Ryder(Published By - Wadhwa Nagpur)
3.	Cyber Laws — Justice Yatindra Singh
4.	Law relating to Computers, Internet & E-Commerce by Nandan Kamath (Published By- Universal Law)

M.C.A. (Commerce)

Part II, Semester III.

Course Title -: Financial and Investment Analysis.

Course Code -: 306.

Objectives -:

1. To acquaint the students with the basics of financial and investment analysis

Unit No.	Topic	Periods
1.	<u>Introduction</u> Properties of Financial Assets - Financial Markets – Investments – Objective of Investments – Investments vs. Speculation. Investment process – security analysis – the Computer and investment analysis – Portfolio Management	7
2.	<u>Stock Exchanges in India</u> BSE, NSC, OTCEI, Stock Market Regulations, Regulation of Primary Market, Secondary Market, Mutual Funds, Institutional Investors, Derivative trading, Investors Protection, Services of Intermediaries.	13
3.	<u>Fundamental Analysis</u> Economic Analysis – Industry Analysis – Company Analysis	13
4.	<u>Technical Analysis</u> Charting Tools – Charts – Flow of Funds – Market Structure – Market Indicators	7
5.	<u>Portfolio Analysis and Management</u> Traditional Portfolio analysis, Effects of combining securities, Diversification, Markowitz model, location of the efficiency frontier.	10
6.	<u>Portfolio Performance, Measurement & Evaluation:</u> Measurement of Portfolio performance – Risk and Return ; Risk adjustment and Performance Measures ; Components of Portfolio Investment Performance – Stock selection and market timing	10
Total		60

Recommended Books	
1.	Investment Analysis and Portfolio Management – M Raghunatham and R Madhumati (Person at Education)
2.	Security Analysis and Portfolio Management – D E Fisher and R C Jordon (Personal Education)
3.	Investment Management – Preety Singh (Himalya Publishing House)
4.	Investment Management – V K Bhalla and S K Tateja(S Chand & CoLtd)
5.	Modern Investment Theory : Haugen Robert (Prentice Hall India, New Delhi)

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Advanced Database Management System.

Course Code -: 401.

Objectives -:

1. To know OODBMS and ORDBMS concepts
2. To know ADBMS concepts

Unit No.	Topic	Periods
1.	OODBMS & ORDBMS 1.1 Overview of Object-Oriented concepts & characteristics 1.2 Objects, OIDs and reference types 1.3 Database design for ORDBMS 1.4 Comparing RDBMS, OODBMS & ORDBMS	8
2.	Advanced Database Management System – Concepts & Architecture 2.1 Spatial data management 2.2 Web based systems Overview of client server architecture, Databases and web architecture, N-tier Architecture, Business logic – SOAP 2.3 Multimedia databases 2.4 Mobile database	6
3.	Parallel databases 3.1 Introduction 3.2 Parallel database architecture 3.3 I/O parallelism Inter-query and Intra-query parallelism, Interoperational and Intra-operational parallelism 3.5 Design of parallel systems	6
4.	Distributed Databases 4.1 Introduction, 4.2 DDBMS architectures 4.3 Homogeneous and Heterogeneous Databases 4.4 Distributed data storage, 4.5 Distributed transactions 4.6 Commit protocols 4.7 Availability 4.7 Concurrency control & recovery in distributed databases 4.8 Directory systems	6
5	Knowledge base Systems 5.1 Integration of expert in database 5.2 application & object database overview	6
6	Information Retrieval & XML data 6.1 Introduction to information retrieval 6.2 Indexing for Text search 6.3 Web search engines 6.4 Managing text in DBMS 6.5 Data model for XML 6.6 XML DTD's, 6.7 Domain specific DTD's 6.8 Querying XML data	18
Total		50

Recommended Books

1. Database system concepts', 5th Edition –Abraham Silberschatz, Henry Korth, S, Sudarshan, (McGraw Hill International)
2. Data Mining: Concepts and systems - Jiawei nan, Micheline Kamber, (Morgan Kaufmann publishers)
3. Database systems : "Design implementation and management"- Rob Coronel, 4th Edition, (Thomson Learning Press)
4. Database Management Systems - Raghu Ramkrishnan, Johannes Gehrke Second Edition, (McGraw Hill International)
5. Database Management System - Alexis Leao, Mathews Leon, (leon press)
6. Fundamentals of Database Systems - Ramez Elmasri , Shamkant Navathe

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Data Centre Technologies.

Course Code -: 402.

Objectives -:

1. To know the basics of data center technology
2. To learn data center clusters.

Unit No.	Topic	Periods
1.	Data Center Basics 1.1 What is Data Center? 1.2 No Time for Downtime 1.2.1 Causes of Downtime 1.2.2 Cost of Downtime 1.3 The High-Availability Continuum 1.3.1 High-Availability Metrics 1.3.2 Availability Choices: How Much Availability is Enough? 1.3.3 Commercial Cluster Management Software	2
2.	Data Center Requirements 2.1 Data Center Prerequisites 2.2 Budget Constraints 2.3 Selecting a Geographic Location 2.3.1 Safe from Natural Hazards and Man-Made Disasters 2.3.2 Availability of Local Technical Talent 2.3.3 Abundant and Inexpensive Utilities Such as Power and Water	2
3.	Data Center Design 3.1 Characteristics of an Outstanding Design 3.2 Guidelines for Planning a Data Center 3.3 Data Center Structures 3.4 Best Practices 3.5 Data-Center Design Case Studies 3.5.1 Celebrity Travels 3.5.2 Designer Dresses 3.6 Network Infrastructure in a Data Center 3.6.1 Modular Cabling Design 3.6.2 Points of Distribution (PODs) 3.6.3 Internet Access 3.6.3.1 ISP Network Infrastructure 3.6.3.2 ISPWAN Links 3.6.4 Best Practices	5
4.	Data Center – other considerations 4.1 Data Center Maintenance 4.1.1 Network Operations Center (NOC) 4.1.2 Network Monitoring 4.1.3 Monitoring Requirements 4.1.4 In-Band and Out-of-Band Monitoring 4.1.5 Data-Center Physical Security 4.1.6 Data-Center Logical Security 4.2 Power Distribution in a Data Center 4.2.1 Estimating Your Power Needs 4.2.2 Uninterruptible Power Supply (UPS) 4.2.3 Generators 4.2.4 Power Conditioning 4.2.5 Single-Phase and Three-Phase Power	8

	<ul style="list-style-type: none"> 4.2.6 Power Distribution Units (PDUs) 4.2.7 Electrostatic Discharge (ESD) 4.3 Data Center HVAC <ul style="list-style-type: none"> 4.3.1 Reasons for Strict Environmental Requirements 4.3.2 Need for Energy-Efficient HVAC Systems 4.3.3 Air-Conditioning Systems 4.3.4 Placement of Hardware Racks 4.3.5 Best Practices 	
5.	<p>Server Performance Metrics</p> <ul style="list-style-type: none"> 5.1 What Is a Benchmark? 5.2 Benchmark Organizations 5.3 Aspects of System Performance <ul style="list-style-type: none"> 5.3.1 Utilization 5.3.2 Latency 5.3.3 Throughput 5.3.4 Efficiency 5.4 SPEC Benchmarks 5.5 Linpack Benchmarks 5.6 TPC Benchmarks 	5
6.	<p>Server Capacity Planning</p> <ul style="list-style-type: none"> 6.1 Server Sizing and Capacity Planning 6.2 Identifying the Slowest Link 6.3 Capacity Planning for Servers <ul style="list-style-type: none"> 6.3.1 Phase 1: Define the Customer’s Requirements 6.3.2 Phase 2: Measure or Estimate Current Resource Utilization 6.3.3 Phase 3: Size the New Server 	3
7.	<p>Server Administration</p> <ul style="list-style-type: none"> 7.1 Best Practices for System Administration 7.2 System Administration Work Automation <ul style="list-style-type: none"> 7.2.1 What Should Be Automated? 7.2.2 Types of Automation 7.2.3 Automation Guidelines 7.2.4 Common Automation Tools 7.2.5 Examples of Automation 	3
8.	<p>Load Balancing</p> <ul style="list-style-type: none"> 8.1 Load-Balancing Terminology 8.2 Advantages <ul style="list-style-type: none"> 8.2.1 Fault Tolerance 8.2.2 Service Availability 8.2.3 Performance 8.2.4 Scalability 8.2.5 Flexibility 8.2.6 Cost Savings 8.2.7 Security 8.3 Types of Load Balancing <ul style="list-style-type: none"> 8.3.1 Software-Based Methods 8.3.1 Hardware-Based Methods 	4
9.	<p>Data Center Clusters</p> <ul style="list-style-type: none"> 9.1 Cluster Architecture <ul style="list-style-type: none"> 9.1.1 Asymmetric Two-Node Clusters 9.1.2 Symmetric Two-Node Clusters 9.1.3 Complex Cluster Configurations 9.1.4 Many-to-One Failover Model 9.1.5 One-to-Many Failover Model 9.1.6 Any-to-Any Failover Model 9.2 Cluster Requirements <ul style="list-style-type: none"> 9.2.1 Required Hardware Cluster Components Servers 9.2.2 Private (Heartbeat) Networks 	8

	9.2.3 Administrative (Maintenance) Network 9.2.3 Public or Service Network 9.2.4 Shared Disks 9.2.5 Adapter SCSI ID Requirements 9.2.6 Local Disks	
	Total	40

Recommended Books	
1.	Foundation of Green IT: Consolidation, Virtualization, Efficiency, and ROI in the Data Center - by Marty Poniatoski (Author)
2.	Administering Data Centers: Servers, Storage And Voice over IP - Kailash Jayaswal
3.	http://www.datacenter.tv/
4.	http://datacenterjournal.com/index.php
5.	http://www.flipkart.com/administering-data-centers-kailash-jayaswal/8126506881-ou23fy0q5d

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Web Enabling Systems and Business Applications.

Course Code -: 403.

Objectives -:

1. To know Web enabling concepts
2. To know different business application concepts

Unit No.	Topic	Periods
1.	Basics of e-business -Introduces the fundamental parts to an e-business application - server technology - client/server Vs n-tier - e-business components - distributed applications - JDBC for dynamic data - access to stored procedures - various models e-business application design	4
2.	J2EE platform - evolution of multi-tier systems - J2EE technology - Servlets and JSP - review of JDBC - EJB - JNDI - application servers	6
3	Web and enterprise architectures - Web-based applications with Servlets and JSP - EJB enterprise component architecture - state management - life-cycle of J2EE objects	4
4	XML in business systems XML can be used vertically and horizontally through the enterprise. - presentation layer - business logic - XML as business objects transported between applications - data persistence - wrapper existing applications - write adapters or use vendor's - the importance of test monitors	6
5	e-business components -Modularize presentation logic with server beans - JavaBeans access from JSP - JavaBeans encapsulation of data and logic - threading and integrity issues - roles with MVC	6
6	e-business application templates -Partition dynamic elements from static with JSP templates - custom actions - encapsulation of presentation functions - tag libraries - template mechanism - future role of XML - current limitations of XML	6
7	e-business application patterns	8

	Use tested techniques for server side objects, encapsulated in patterns - factory pattern and database connection pools - factory pattern and lifecycle control - command pattern and access to enterprise components - mediator pattern and security issues	
Total		40

Recommended Books	
1.	The Complete Reference J2EE – by Jim Keogh.
2.	Design Patterns (Elements of Reusable Object – Oriented Software) By – Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides.
3.	Business Rules Management and Service Oriented Architecture: A Pattern Language by Ian Graham, Publisher : John Wiley & Sons (Nov 2006)
4.	Object – oriented Methods by Ian Graham, Publisher : Addison Wesley ; 3 rd edition (Dec. 2000)

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Business and Professional Skill.

Course Code -: 404.

Objective -:

1. To help acquire proper understanding and practice by students in various professional skills required for excelling in commercial world.

Unit No.	Topic	Periods
1.	The Foundation of Excellence a. Strategy (customer ,competitors and company)and culture (Commitment, competence and Consistency) b. Using strategic thinking the essence of strategic planning with strategic thinking. c. Culture awareness and culture building, assessing an organization's culture. d. How to match strategy and culture.	10
2.	Necessary skills to achieve excellence : a. Creative insight- importance insight in selecting the successful strategy, how to become a insightful executive. b. Sensitivity – importance of insight in selecting the successful strategy, how to become a sensitive, executive.	14
3.	a. Versatility – importance of versatility in converting threats in to Opportunities, how to become a versatile executive. b. Focus -importance of focus in exploiting the change, how to become a focused executive. c. Patience:- importance of patience in lasting the excellence, how to become a patient executive	10
4.	Creating excellence : a. Start up – organizing strategy and culture b. Growth – holding strategy and culture together and determining appropriate strategy c. Crisis – holding altering strategy and culture d. Evaluation – fine tuning strategy and culture i.e. carefully evolving strategy culture alloy.	7
5.	Listening and speaking, meeting speeches and techniques of electing response, probing questions, recording and closing, observation, methods. Group discussion and interviews. Non-verbal expressions : body language, gestures, postures, facial expressions and Dress codes.	14
Total		48

Recommended Books

- 1 Basic business communication :Robert ma Archer
- 2 Effective Bussiness Communication :Murhy
- 3 Excellence in Bussiness Communication : Thill
- 4 Business Communication : Pradhan &Thakur
- 5 Business Communication : Balsubramanium M.
- 6 Handbook of case Writing :Culliton &James W.
- 7 Creating excellence –Craig R. Hickman & Michael A. Silva –George ,Allen & Unwin,London University book ,New Delhi.

- 8 Organizational Behavior - Stephen Robbins –PHI New Delhi.
- 9 Managing Creativity for corporate excellence – P.N.Ristogi.
- 10 The EQ Edge –steven J.stein and Howard E.Book
- 11 Achieving Managerial Excellence – S.K.Bhattacharya –published by S.G. waswani for Macmillan India Ltd. ,New Delhi.

Journal:

1. **kaleidoscope**
2. **paradigm**
3. **Indian management**

Website :-

1. <http://www.bookwatch.com>
2. www.aif
3. www.hbr.org

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Client / Server Technology.

Course Code -: 405.

Objectives -:

1. To learn client/server technology
2. To learn internet programming

Unit No.	Topic	Periods
1	Introduction To Client/ Server 1.1 Client ,Server Definition 1.2 Internet and Intranets 1.3 Characteristics of Client/Server System 1.4 Server Types(nature of service it provides). 1.5 Fat Server or Fat Clients 1.6 Pipes and Platforms	6
2	Client/Server Building Block 2.6 Inside the Building Block 2.6.1 The Client Building Block 2.6.2 Server Building Block 2.6.3 Middleware Building Block 2.6.4 Server to Server middleware 2.7 Client /Server Model 2.7.1 c/s for small shops & departments 2.7.2 c/s for Intergalactic Enterprises. 2.7.3 c/s for a post- scarcity world 2.7.4 c/s for Tiny shops & Nomadic Tribes	8
3	Extensive Networking Infrastructure 3.6 Bridges, Routers, IP Switches & Gateway 3.7 The Transport stacks middleware 3.8 Bandwidth requirements 3.3.1 The state of LAN 3.3.2 The state of WAN 3.3.3 State of LAN to WAN Interconnect 3.3.4 State of Home to WAN Connection 3.3.5 State of Wireless to WAN connection 3.4 Personal Communication service 3.5 Virtual Circuits	12
4	RPC, Messaging & Peer to Peer 4.5 Peer-to-Peer communication 4.6 Sockets 4.7 RPC 4.8 Messaging and Queuing 4.9 MOM versus RPC(message-oriented)	5
5	Client/Server Tools and Application 5.4 Model of Client/Server tools 5.5 What makes Client/Server different 5.6 Rapid Prototyping 5.7 Prototyping to working System 5.8 The Client/Server Scalability	5
6	JAVA Script 6.2 Difference between client side & server side scripting 6.3 Introduction to Java Script 6.4 Identifier & operator,control structure,functions 6.5 Web browser,Document object model(DOM),DOM	7

	Objects(window,navigator,history,location) 6.6 Collection in DOM. 6.7 Predefined functions,numbers & string functions 6.8 Array in Java scripts 6.9 Event handling in Java script & DHTML.	
7	Active Server Pages (ASP) 7.4 HTTP basic 7.5 Introduction to ASP 7.6 Working with personal web server & IIS 7.7 Writing simple ASP pages, request & response 7.8 Application on session object. 7.9 Session & global.asa 7.10 ASP & database, error handling	7
Total		50

Recommended Books
<ol style="list-style-type: none"> 1. Client/Server Survival Guide – Robert Orfali, Dan Harkey, Jeri Edwards 2. ASP Server pages 3.0 in 21 days by - Tech Media 3. HTML & Java script - Ivan Bayross.

M.C.A. (Commerce)

Part II, Semester IV.

Course Title -: Knowledge Management for Business.

Course Code -: 406.

Objective -:

1. To know the concept of knowledge management for business
2. To learn different inference techniques.
3. To learn the different phases of intelligent system development.

Unit No.	Topic	Periods
1.	Knowledge Management 1.1 Introduction to Knowledge Management 1.2 Knowledge 1.3 Organization Learning and Organizational Memory. 1.4 Knowledge Management 1.5 The Chief Knowledge Officer 1.6 The Knowledge Management Development 1.7 Knowledge Management Methods, Technologies and Tools 1.8 Knowledge Management Success 1.9 Knowledge Management and Artificial Intelligence 1.10 Electronic Document Management 1.11 Knowledge Management Issues and the future Case Application 1.1 Chrysler's New Know – Mobiles Case Application 1.2 Knowledge the chevron way	8
2	Knowledge Based Decision Support : Artificial Intelligence and Expert System 2.1 Concepts and Definition of Artificial Intelligence 2.2 Artificial Intelligence verses Natural Intelligence 2.3 The Artificial Intelligence field 2.4 Types of Knowledge- Based Decision support System 2.5 Basic Concepts of Expert System 2.6 Structure of Expert System 2.7 The Human element in Expert System 2.8 How Expert System works 2.9 Examples of Expert System Consultation 2.10 Problem Area Addressed by Expert Systems 2.11 Benefits of Expert Systems 2.12 Problem and limitation of Expert Systems 2.13 Expert System success Factors 2.14 Types of Expert Systems 2.15 Expert Systems and the Internet / Intranet / Web Case Application : Gate Assignment Display System	8
3	Knowledge Acquisition and validation 3.1 knowledge Engineering. 3.2 scope of knowledge. 3.3 Difficulties in Knowledge Acquisition. 3.4 Methods of Knowledge Acquisition. 3.5 Interviews 3.6 Tracking Methods. 3.7 Observations and other manual methods 3.8 Expert- Driven methods 3.9 Repertory grid analysis. 3.10 Supporting the Knowledge Engineer. 3.11 Machine Learning : rule Induction , Case-Based Reasoning , Neural computing and intelligent Agents.	8

	3.12 Selecting an appropriate Knowledge acquisition method. 3.13 Knowledge acquisition from multiple experts. 3.14 Validation and verification of the knowledge base. 3.15 Analyzing , coding, documenting ,and diagramming 3.16 Numeric and documented Knowledge Acquisition. 3.17 Knowledge acquisition and the internet / Intranets. 3.18 Induction Table Example	
4	Knowledge Representation 4.1 Introduction 4.2 Representation in logic and other schemas 4.3 Semantic Networks 4.4 Production Rules. 4.5 Frames 4.6 Multiple Knowledge Representation 4.7 Experimental Knowledge Representation 4.8 Representation Uncertainty : An overview	6
5	Inference Techniques 5.1 Reasoning in Artificial Intelligence. 5.2 Inferencing with rules : Forward and Backward Chaining. 5.3 The inference tree 5.4 inferencing with frames. 5.5 Model-Based Reasoning. 5.6 Case-Based Reasoning 5.7 Explanation and Metaknowledge. 5.8 Inferencing with Uncertainty 5.9 Representing uncertainty 5.10 Probabilities and related approaches. 5.11 Theory of certainty. 5.12 Approximate Reasoning using Fuzzy Logic..	8
6	Intelligent Systems Development 6.1 Prototyping : The expert system development life cycle. 6.2 Phase I : project initialization . 6.3 Phase II : System analysis and design 6.4 Software classification : ES technology levels. 6.5 Building Expert systems with tools. 6.6 Shells and environments 6.7 Software selection 6.8 Hardware 6.9 Phase III : rapid prototyping and demonstration prototype. 6.10 Phase IV : System development. 6.11 Phase V : implementation 6.12 Phase V : Post implementation 6.13 The Future of expert system Development Process. 6.14 Case : The development of the logistics Management System(LMS) at IBM.	8
Total		40

Recommended Books
1. Decision Support Systems and Intelligent Systems Efraim Turban and Jay E.Aroson.