BHARATHIAR UNIVERSITY, COIMBATORE.
M. Sc. INFORMATION SCIENCE & MANAGEMENT COURSE WITH COMPULSORY DIPLOMA IN WEB APPLICATIONS
(Affiliated Colleges - Effective from the academic Year 2008-2009)

SCHEME OF EXAMINATIONS – CBCS PATTERN

em	Study Components	Course title	Ins. hrs/ week	Dur.Hrs.	CIA	Marks	Total Marks	Credit
	Semester I							
I	Paper I Digital Computer Fundamentals		4	3	25	75	100	4
	Paper II Programming in C		5	3	25	75	100	4
	Paper III Data Structures and Algorithms		5	3	25	75	100	4
	Paper IV System Analysis and Design		4	3	25	75	100	4
	Paper V Management Principles		4	3	25	75	100	4
	Practical I C Lab		5	3	40	60	100	6
	Dip. Paper I Web Designing		3	3	25	75	100	3
II	Paper VI Relational Database Management Systems		5	3	25	75	100	4
	Paper VII Computer Networks		5	3	25	75	100	4
	Paper VIII Data Mining and Warehousing		5	3	25	75	100	4
	Paper IX Management Information Systems		6	3	25	75	100	4
	Practical II RDBMS Lab		6	3	40	60	100	6
	Dip. Paper II Web Services		3	3	25	75	100	3
III	Paper X Software Project Management		5	3	25	75	100	4
	Paper XI Visual Programming		5	3	25	75	100	4
	Paper XII Enterprises Resource Planning		5	3	25	75	100	4
	Paper XIII Human Resources Management		5	3	25	75	100	4
	Practical III Visual Programming Lab		4	3	40	60	100	6
	Dip. Paper III ASP.NET		3	3	25	75	100	3
	Dip. Paper IV ASP.NET programming Lab		3	3	40	60	100	3
IV	Project work and Viva voce		-	-	-	-	200*	8
	Total						2200	90

* Project report - 160 marks; Viva-voce – 40 marks

Subject Title   **: DIGITAL COMPUTER FUNDAMENTALS**

Subject Description:

This course presents the Principles of digital circuits and explains the digital, analog signals and digital integrated circuits

Goal:

To enable the students to learn the basic functions, principles and concepts of digital signals.

Objectives:

On successful completion of the course the students should have:

➢   Understood the Digital to analog signals and usage of Integrated Circuits

Contents:

UNIT I
Number Systems: Decimal, Binary, Octal, Hexadecimal - Conversion from one to another – Floating Point Representation - Arithmetic Operations: Binary Addition, Subtraction, Multiplication and Division. – Complements - Codes: BCD weighted - Excess three - Gray - Error Detection codes.

UNIT II
Basic Logic Gates - Boolean laws and theorems – Nand, Nor Implementation -Sum of products - product of sums - Karnaugh map - Tabulation Method - simplification methods - Don't care conditions.

UNIT III
Combinational Logic circuits Design: Multiplexers - Demultiplexers - Decoders - Encoders – parity generators – code generators – code convertors – magnitude comparators - Arithmetic Circuit Design: Half Adder, Full Adder, Subtractor, parallel Adder – Multiplier – divider.

UNIT IV
Flip-Flops design – types - RS, clocked RS, D-Edge - D, JK, JK master/slave flip flops – triggering – counter design principles – sequential logic design - design of synchronous and sequential circuits – asynchronous sequential circuits

UNIT V
Digital hardware design: logic families – concepts of hardware description language – silicon chips and VLSI Design.

REFERENCE BOOKS:
1. Albert Paul Malvino, Donald, P. Leach, "Digital Principles and Applications", Tata McGraw Hill, 1996
2. S. Salivahanan, S. Arivazhagan "Digital circuits and design", vikas publication house PVT Ltd, 2001.
3. John P. Uyemura "A First course in digital system design" an integrated approach – brooks cole, Thompson Learning, 2001.
4. Bartee "Digital Computer Fundamentals", Tata Mc-graw Hill, 1996.
5. M.Mano, "Digital Design", 3rd edition, pearson education, 2002

Subject Title   : PROGRAMMING IN C

Subject Description:

This course presents the Programming techniques in C, explains data types, arrays, pointers, files.

Goal:

To enable the students to learn the basic functions, principles and concepts of programming in C fundamentals.

Objectives:

On successful completion of the course the students should have:

➢   Understood the Programming in C language

Contents:

UNIT I
Introduction to computers - block diagram of computers – how to develop a program – modes of operation – types of programming languages – identifiers and keywords – compiling and executing the program – datatypes - constants – variables and arrays – declaration – expression – statements – symbolic constants – operators and expression.

UNIT II
Data input and output – single character input and output – gets and puts functions – error diagnostics – debugging techniques – control statements – IF-ELSE statement – While statement – nested control structures – switch and break statements – continue, comma and goto statements.

UNIT III
Functions – Defining a function – accessing a function – function prototypes – passing arguments to a function – storage classes – automatic variables – global variables – static variables – multiple programs – arrays – processing an array – passing array to a function – arrays and strings.

UNIT IV

Pointers – pointer declaration – passing pointer to a function – dynamic memory allocation – operations on pointers – pointers and multidimensional array – array of pointers – structures and unions – defining and processing structures – user defined datatypes – structures and pointers – passing structures to a functions – self-referential structures.

UNIT V

Data files – opening and closing files – processing data files – unformatted data files – register variables – bitwise operators – bit fields.

REFERENCE BOOK

1.   Byron S Gottfried, " Programming with C", second edition, McGraw-Hill, 2006
2.   Yashvant P. Kanetkar, ' Let Us C', BPB Publications, 4th edition,1998
3.   Hughes, J.K. and Michtom J.I. 'A Structured approach programming' Prentice Hall, 1977.
4.   E. Balagurusamy, 'Programming in ANSI C', Tata McGraw Hill, 1992.
5.   S. Thamaraiselvi G. Murugesahan, 'C for all', Anuradha agencies.
6.   Robert A. Radcliffe, 'Encyclopedia C' BPB Publications.
7.   Brain W. Kernighan, Dennis M.R. Chie, 'The C Programming Language' Prentice Hall, 1990.

Subject Title   : DATA STRUCTURES AND ALGORITHMS

Subject Description:

This course presents the Data structures and Algorithms, emphasizing Basic data types, Discrete graphs ,Sorting, Algorithm design techniques and parallel models.

Goals:

 To enable the students to learn the basic functions, principles and concepts of Data Structures and algorithms.

Objectives:

On Successful completion of the course the students should have:

➢   Understood Data structures, Algorithms and graphs.

Contents:

UNIT I
Basic data types: Implementation of lists, stacks, queues, mappings,
Trees: The ADT tree, Binary trees, Basic operations on sets.

UNIT II
Discrete Graphs: Representation of directed graphs, the all pairs shortest path problems, Traversals of directed graphs, Directed acyclic graphs, Undirected graphs, minimum cost spanning trees, traversals, articulation points and biconnected components, graph matching.

UNIT III
Sorting: Quick sort, heap sort, bin sorting algorithm, Analysis techniques: Efficiency of algorithm, Analysis of recursive programs, solving recurrence equations.

UNIT IV
Algorithm design technique: Divide and conquer algorithms Dynamic programming, Greedy algorithm, back tracking, and local search algorithms.
Memory algorithms: Garbage collection algorithm for equal sized
Blocks, storage allocation for objects with mixed sizes, Buddy systems, storage compaction.

UNIT V
Parallel Models: Basic concepts, performance measures, parallel algorithms: parallel complexity, analysis of parallel addition, parallel multiplication and division, parallel evaluation of general arithmetic expressions, first order linear recurrence.
REFERENCE BOOKS
1. Alfred V.Aho, John E Hop Croft, Jeffrey D Ullman, "Data structures and Algorithms", Pearson Education,1999
2.S.Lakshmivarahan, Sundarshan K Dhall, "Analysis and design of parallel algorithms",McGraw-Hill,1999

Subject Title   **: SYSTEM ANALYSIS AND DESIGN**

Subject Description:

This course presents the Systems in the Organization, System planning and investigation, System Design and Project Document.

Goals:

To enable the students to learn the system operation in the organization & System planning.

Objectives:

On Successful completion of the course the students should have:

➢   Understood the System working in the organization, Planning, and Investigation

Contents:

UNIT I
The systems in the organization: System concepts, Subsystems, Types of systems, systems and the system analyst, Business as a system, Information systems. Systems life cycle, Systems development stages, Role of systems analyst, Characteristics of system analyst.

UNIT II
System planning and investigation: Approaches to system development, system investigation, methods of investigation, Observation, Record searching, and special purpose records, sampling, questionnaires, and interviewing, recording the investigation feasibility assessment.

UNIT III
System Design: Analyzing user requirements, logical system definition, Physical system definition and physical design of computer subsystem, file design, database design, output and inout design, computer procedure design, system security. Physical Design: Form design, dialogue design, code design. System design: Preparation for implementation, changeover maintenance and review.

UNIT IV
Project Documentation :Communication skills, problems in communication written reports, principles of report writing with structure, standard documentation, study proposal, user system specification, program and suit specification, user manual, operational manual, test data file, changeover instruction, system audit report.

UNIT V
Management information system: Introduction to MIS, Survey of IF Technology, concept. - Foundation, IS requirements, Development, implementation and management of IS Resources.

REFERENCE BOOKS

1.   Lee Galgotia "Introducing system analysis and design" volume 1 and 2, 1996
2.   James A senn."Analysis and design of information system" , Mc GrawHill, 1989.
3.   Gordon B.Davis & H. Olson, "Management information system, conceptual foundations, structures and development," McGrawHill, 1985
4.   Cliffon H.D "Systems analysis for business data processing", petrocoli books, 1974.

Subject Title   : MANAGEMENT PRINCIPLES

Subject Description:

This course presents the principles of Management emphasizing Coordination, Forecasting, Organizing and directing functions

Goals:

To enable the students to learn the principles of Management.

Objectives:

On Successful completion of the course the students should have:

➢   Understood the concept and process of Business Management.

Contents:

UNIT I
Management - Definition - Elements of Science - System approach to operational management – Functions of managers – Operating in a pluralistic society – Social responsibility of managers – Ethics in managing.

UNIT II
Planning – Types of planning – Steps in planning – planning process – nature of the objectives – concepts in management by objectives – process of managing by objective – benefits and weaknesses of management by objective, Strategies, policies and planning premises – strategic planning process – TOWS matrix – major kinds of strategies and policies, Decision making – importance and limitation of decision making – evaluating the importance of decision making – decision support systems.

UNIT III
Organizing – formal and informal organizing – organizing levels – factors determining an effective span – structure and process of organizing, Basic departmentation – Departmentation by simple numbers – time – enterprise function – territory – customer departmentation – departmentation by product, Line/Staff authority and Decentralization, Effective organizing and organizational culture.

UNIT IV
Staffing – System approach to human resource management – selection – position requirements and job design – selection process, Performance appraisal and career strategy – process and problem of namagement appraisal – appraising mangers against verifiable objectives, manager and organizing development – on-the-job training – managing change.

UNIT V

Leading – Managing and Human Factor – Motivation – Leadership – Communication.

REFERENCE BOOKS

1. Harold Koontz and Heinz Weihrich "Essential of Management", Fifth Edition McGraw-Hill,1998
2. Harold Koontz and Heinz Weihrich " Management – A global Perspective", McGraw-Hill,1995
3. Stoner and Wankal, "Management", prentice-Hall inc, 1986
4. Tim Hannagan, R.Bennett, " Management- Concepts & Practice", FT-Prentice Hall, 1995
5. Robert Kreiter, " Management,AITBS" 1999.

Subject Title   : RELATIONAL DATABASE MANAGEMENT SYSTEMS

Subject Description:

This course presents the purpose of database system, ER Models, Relational Algebra and Query processing

Goals:

To enable the students to learn the Relationships between the databases.

Objectives:

On Successful completion of the course the students should have:

➢   Understood the ER models and the relationship between the databases.

Contents:

UNIT I

Database system – applications – view of data – data models –database languages – transaction management – database system structure, Data models – Constraints - Keys – ER Diagram – Extended ER features – UML, Relational Model – Structure – relational algebra – modification of database – tuple relational and domain relational calculus.

UNIT II

SQL – basic structure- set operation – nested quries – joined relations – embedded and dynamic SQL, Other relational languages – Query by example – user interface tools – Integrity and Security – Domain constraints – assertions –

triggers – security and authorization – encryption and authentication, Relational Database design – Pitfalls – decomposition – boyce codd normal form – overall database design.

UNIT III
Object oriented database – model – languages- persistent C++ systems, Object relational database – nested relations – complex types –inheritance – functions and procedures, XML- Structure of XML – querying and transformation – XML applications.

UNIT IV
Storage and file structures – Indexing and hashing – query processing – query optimization

UNIT V
Transaction – concept and state – transaction definition in SQL – concurrency control – lock based protocols – validation – based protocols – deadlock systems – concurrency in index structures, Recovery System.

REFERENCE BOOKS

1. Silberschatz, Korth, Sudarshan " Database System Concepts", Fourth edition McGraw-Hill,2002
2. Elisa Bertino, "Object Oriented Databases", Addison Wesley,1993
3. Navethe/Elmasri,"Fundamentals of Database Systems". Addison Wesley, 1994.

Subject Title   : COMPUTER NETWORKS

Subject Description:

This course presents the introduction to networks and communication media, data transfer, network layer protocols, transport protocols and presentation layer.

Goal:

To enable the students to learn the basic functions, principles and concepts of computer networks.

Objectives:

On successful completion of the course the students should have:

Understood the functionality of networks protocols and layers

Contents:

UNIT I

Introduction to networks & communication media: Uses – Network hardware – Network software – Reference Models – Novel NetWare, ARPAnet, Internet networks – Data Communication services - Standardization. Transmission media – Wireless Transmission – Telephone system – ISDN, ATM communication – satellite communication.

UNIT II

Data transfer & access protocols: Data Link Layer issues – Error detection and correction methods – Elementary protocols – Sliding window protocols – Protocol specification and verification methods. Channel allocation – Multiple access – IEEE 802 standards – High speed LANs.

UNIT III

Network layer protocols: Network layer issues – Routing algorithms – Congestion control – Internetworking - Network layer in Internet, ATM.

UNIT IV

Transport protocols: Transport service – Transport protocols – Transport protocols in Internet and ATM – Performance issues.

UNIT V

Presentation layer: Design issues - abstract syntax notations - data compression techniques - cryptography. Application layer issues: Network security – Domain Name System – Simple Network Management protocol – Electronic mail – World Wide Web - Multimedia.

REFERENCE BOOK

1.   Andrew S.Tanenbaum "Computer Networks ", third edition Prentice Hall of India, 1996.

Subject Title   : DATA MINING AND WAREHOUSING

 Subject Description:

This course presents the data mining concepts, classifications algorithms and data warehousing.

Goals:

Enable the student to be familiar in data warehousing, clustering and rules.

Objectives:

On successful completion of the course the student should have:

➢   Understood data mining and data warehousing applications.

Contents:

UNIT I

Data Mining: Introduction: Basic Data Mining Tasks – Data Mining versus Knowledge Discovery in Database Mining Issues and Mechanisms. Data Mining Techniques: Statistical Perspective on Data Mining – Similarity Measures – Decision Trees – Neural Networks – Genetic Algorithms.

UNIT II

Classifications: Bayesian Classification – Distance Based Algorithms – K-Nearest Neighbor. Clustering: K-Means Clustering –Clustering with Genetic Algorithms – Clustering with Neural Networks. Association Rules – Basic Algorithms – Parallel and Distributed Algorithms – Comparing Approaches – Generalized and Multilevel Association Rules. Web Mining: Web Content Mining: Personalization.

UNIT III

Data Warehousing: Introduction – Architecture – System Process-Process Architecture.

Design: Database Schema – Partitioning Strategy – Aggregations – Data Marting – Meta Data.

UNIT IV

Hardware and Operational Design : Hardware Architecture – Physical layout – Security – Backup and Recovery – Service Level Agreement – Operating and Data Warehousing.

UNIT V

Capacity planning – Tuning and Data Warehouse – Testing and Data Warehouse – Data Warehouse Futures. Application: Data warehousing and data mining in government: Introduction-national data warehouses-other areas for data warehousing and data mining

REFERENCE BOOKS:

1.   Sam Anahory and Dennis Murray, 'Data Warehousing in the Real World', Pearson Education, 1997

2.   Margaret H. Dunham, 'Data Mining Introductory and Advanced Topics', Pearson Education, 2004.

3.   Pieter Adriaans, Dolf Zantinge, 'Data Mining', Addison Wesley, 1998.

Subject Title   : MANAGEMENT INFORMATION SYSTEMS

Subject Description:

This course presents the Information systems, Managerial overview and decision system.

Goals:

To enable the students to learn the Managerial operations in the organization.

Objectives:

On Successful completion of the course the students should have:

➢   Understood the System working in the Information System and managing Information in the Organization.

Contents:
UNIT I
Management Information System – definition – Role of management – management as a control user – MIS – management effectiveness, E-business Enterprise – organization of business in an E-enterprise – E-business – E-commerce – E-communication – E-collaboration.

UNIT II
Strategic management of business – concept and essential of strategic planning – types of strategies – tolls of planning, Information Security challenging in E-enterprises – Security threats – controlling security threat and vulnerability – disaster management, impact of IT on privacy – technical solutions for privacy protection – information system quality and impact.

UNIT III
Decision making – concepts- process – decision analysis by analytical modeling - behavioural concepts in decision making – MIS and decision making, Information and knowledge – quality product – classification – value of information, Systems Enginerring:SSAD – concepts and controls – types of system – classes of system – system analysis of the existing system and new requirement – system development model – SSAD.

UNIT IV
Object-oriented technology and System analysis and design(OOTSAD) – OOA – use case model – object oriented languages – OOSAD development life cycle, Develepment of MIS and Business Processing RE-Enginering(BPR).

UNIT V
Aplications in Manufacturing sector – Personal management – Financial management – production management – marketing management, Application in Service sector – service concept – service process cycle and analysis – service management system, Decision support system and Knowledge management – GDSS – knowledge based expert system, Enterprise Management System – ERP model and modules – ERP implementation – Supply chain management – customer relationship management(CRM).

REFERENCE BOOK

1.   Waman S Jawadekar " Management Information Systems ", Third edition, McGraw-Hill, 2006

Subject Title   : SOFTWARE PROJECT MANAGEMENT
Subject Description:
 This course presents the Introduction, Activity Planning, Risk Management, and Software configuration.
Goals:
  To enable the students to learn the project scheduling, small and large projects and Risk Management.
Objectives:
 On Successful completion of the course the students should have:
➢   Understood the Project evaluation, project analysis and planning.
Contents:
UNIT I
Introduction, software projects versus other types of projects, problem with software projects, An overview of project planning, project evaluation, project analysis and technical planning, software estimation.

UNIT II
Activity planning, project schedules, sequencing and scheduling projects, network planning model, shortening project duration, Identifying critical activities.

UNIT III
Risk management, Resource Allocation, Monitoring and control, managing people and organizing teams, planning for small projects.

UNIT IV
Software configuration management, Basic functions, Responsibilities, standards configuration management, prototyping, models of prototyping.

UNIT V
Case study - PRINCE Project management standards.

REFERENCE BOOKS
1.   Bob Huges and Mike Cotterell "Software project management", McGraw-Hill, 2001
2.   Darrel Ince.H.Sharp and M. Woodman, "Introduction to software project management and quality assurance", Tata McGraw Hill, 1993.

Subject Title: VISUAL PROGRAMMING

Subject Description:

 This course presents the VB fundamentals, MDI forms, Control Arrays, Built in functions Windows common Controls

Goals:

  To enable the students to learn fundamentals of visual programming and windows common controls

Objectives:

 On Successful completion of the course the students should have:

➢ Understood the fundamentals of VB, classes objects and built in functions.

Contents:

UNIT I
VB Fundamentals:Getting started - The Visual Basic environment customizing a Form. First steps in Programming the code window, Variables, Datatypes, constants, strings, Numbers, statements in Visual Basic: The comment and End statement.

UNIT II
First steps in building the user interface: The tool box -creating controls   the name property - properties of the command button simple. event procedures' for command buttons- Access keys - Image controls- Labels - Navigating between

controls - Message Boxes - the grid'- picture box -Rich text box- frames - option buttons - check boxes -scroll bars - timers. Menus - MDI forms

UNIT III
Organizing information via controls: Control arrays - List and combo boxes - Flex grid controls. Controlling Program flow: Determinant loops - Indeterminate loops - Making Decisions- select case - Nested If then - The GOTO statement.

UNIT IV
Built in functions: String functions - Numeric functions -Date and Time functions - Financial functions. Functions and procedures : Function procedures and Sub procedures. Objects in VB--classes-object creation & manipulation. Graphics-line, shape, boxes, circles, ellipses & Pie charts, help systems.

UNIT V
Windows Common controls 6.0: Image list box - List View control - Progress bar control - Slider control - status bar control -- DDE properties-DDE events-DDE methods -OLE properties, ActiveX controls creation & usage. Database access - data control-field control-data grid-Recordset using SQL to manipulate data.

REFERENCE BOOKS

1. Gary Cornell "Visual Basic from the Ground up", McGraw-Hill, 1999

Subject Title : **ENTERPRISES RESOURCE PLANNING**

Subject Description:

This course presents the introduction to ERP, ERP and related technologies, ERP Market, Vendors

Goal:

To enable the students to learn the basic functions, principles and concepts of Enterprise Resource Planning.

Objectives:

On successful completion of the course the students should have:

➢   Understood the Enterprise Resource Planning and related technologies

Contents:

UNIT I
Introduction to ERP : Evolution of ERP-ERP-Reason for the growth of the ERP market-Advantage-Enterprise-An overview: Integrated Management Information-Business modeling-integrated Data Model

UNIT II
ERP and Related Technologies: Business Process Reengineering-Management Information System-Decision Support System-Executive Information Data ware housing-data mining-OLAP-Supply Chain Management-A Manufacturing Perspective: CAD/CAM-MRP-BOM-Closed Loop MRP-Data Management –Benefits of PDM-Make to order-Assembler-Engineer to order-Configure-ERP Modules.

UNIT III
ERP Market- Implementation LifeCycle: Introduction-Pre-Evaluation Screening-Package Evaluation-Project Planning Phase-Gap Analysis-Reengineering-Configuration-Implementation Team Training -Testing –End User Training-Post -Implementation

UNIT IV
Vendors, Consultant and Users- Future Directions in ERP: New Markets-New Channels-Faster Implementation Methodologies-Business Models and BAPIs-Convergence on Windows NT-New Business Segments-More Features-Web Enabling Markets -Snapshot

UNIT V
ERP Case Studies: SAP R/3 ,Oracle, People soft

REFERENCE BOOKS

1.   Alexis Leon," "Enterprise Resource Planning", Tata McGRAW-Hill Edition,2003
2.   Michael Hammer, "Enterprise Resource Planning", 1998.
3.   K.Nagappan, "Digital Computers and Data Processing ", 1996.
4.   J.A.Hernandez, "The SAP R/3 Handbook", 1998

Subject Title   : HUMAN RESOURCES MANAGEMENT

Subject Description:

This course presents the Human Philosophy, Recruitment and Placement, Training and development and Labor relationships.

Goals:

To enable the students to learn fundamentals of Placement, Selection, Training and the Performance appraisal.

Objectives:

On Successful completion of the course the students should have:

➢   Understood the needs of the Human resource Management and Job

Analysis in the Organization.

Contents:

UNIT I
Human Resource Philosophy – Changing environments of HRM –Strategic human resource management – Using 111CM to attain competitive – Trends in HRM – organization of IIR departments – Line and Staff functions – Role of IIR Managers.

UNIT II
Recruitment of Placement - Job analysis: Methods – IT and computerized skill inventor^y – writing job specification – HR and the responsive organization. Recruitment and selection process: Employment planning and forecasting – Building employee commitment: Promotion from within – Sources, Developing and Using application forms – If and recruiting on the internet.
Employee Testing & Selection :Selection process , basic testing concepts , types of test , work samples and simulation , selection techniques , interview , common interviewing mistakes , Designing & conducting the effective interview , small business applications , computer aided interview.

UNIT III
Training & Development - Orientation & Training: Orienting the employees, the training process, need analysis, Training techniques, special purpose training, training via the internet. Developing Managers: Management Development – The responsive managers – on the job and off the job Development and CD-ROMs – Key factor for success, Performance Appraisal: Methods – problem and solutions – MBO approach – the Appraisal interviews – performance appraisal in practice
        Managing Careers . Career planning and development – Managing promotions and transfers.

UNIT IV
Conversation & Managing Quality- Establishment Pay Plans: Basics of compensation- factors determining pay rate - current trends in compensation - job evaluation - pricing managerial and professional jobs - computerized job evaluation, Pay for performance and financial incentives: Money and motivation- incentives for operations employees and executives - Organization wide incentive plans - Practices in Indian organizations.
        Benefits and services: Statutory benefits - non-statutory (voluntary) benefits - Insurance benefits - retirement benefits and-other welfare measures to build employee commitment.

UNIT V
Labour relations and employee security - Industrial relation and collective bargaining: Trade unions - Collective bargaining - future of trade unionism. Discipline administration -grievances handling- managing dismissals and separation

   Labour Welfare: Importance and Implications of labor legislations - Employee health -auditing HR functions, future of IIRM function

REFERENCE BOOKS:

1.   Gary Dessler, "Human Resource Management"., Seventh edition, Prentice-Hall Canada, Incorporated, 1997
2.   H.John Bernardin & Joyee E.A Russel , Human Resource Management - An experimental approach , McGraw Hill IntLEditiolL
3.   David A Decenzo & Stephen P Robbins , Personnel I Human Resource Management , Third Edition ,PHI
4.   VSP Rao, Human Resource Management: Text and cases, first edition. Excel Books , New Delhi -2000
5.   Dr. R.Venkatapathy & Assisi Menacheri , Industrial Relations & Labour Welfare , Adithya publication

COMPULSORY DIPLOMA PAPER I : Web DESIGNING
(for the candidates admitted during 2008-09 batch and onwards)

Number of Instructional Hours: 3   Number of Credits : 4
Subject Description
 This Course presents the basics of Web designing.

Goals:
To enable the students to learn the Programming Languages for Web designing
Objectives :
On successful completion of the course the students should have:
• Understood the fundamentals of Internet
• Understood the fundamentals of Web design and how to program using HTML and XML.

Contents
Unit I
   Introduction to Internet – World Wide Web – Browsers: Introduction – Popular Web Browsers – know your browsers – Electronic Mail : Introduction – E-mail networks and servers – E-mail protocols – Structure of an E-mail.

Unit II
   HTML : Introduction – Getting started – Creating and saving an HTML document – Document Layout of HTML Page – HTML elements – Some other formatting Styles – Hypertext Links.

Unit III
   HTML (contd) : URLs – Images – HTML tables – Forms – Special Characters – Metatages.

Interactivity Tools and Multimedia : Introduction – DHTML – Scripting Languages – Java – ASP.

Unit IV
XML : XML basics – Introduction – need for XML – Advantages – Working with an XML Document – Structure of an XML Document – DTD- XML Schema

Unit V
XML (contd) : Working with XML Schema - Declaring Attributes – XML namespaces – Reusing Schema Components – Grouping elements and attributes.
XML Style sheets : Introduction – CSS – eXtensible Style Sheet language – Formatting Data based on controls – Displaying data in a Tabular Format.

REFERENCE Books:
1.   "Internet and Web Design", ITL Education, Macmillan India Ltd..
2.   "HTML and XML an Introduction", NIIT, Prentice Hall of India Pvt.Ltd.

Paper II : WEB SERVICES
Subject Title : Web Services

Number of Instruction Hours: 3
Subject Description
 This Course presents the Web Services Provided.
Goal : To enable the students to learn what is web service and Protocols used for Web services
Objective
On successful completion of the course the students should have:
- Understood how to build the real world applications using Web Services.

Contents
Unit I
Introduction to Web Services – Industry standards, Technologies and Concepts underlying Web Services – their support to Web Services, Applications that consume Web Services.
Unit II
XML – its choice for Web Services – Network protocols to backend databases – Technologies – SOAP, WSDL – exchange of information between applications in distributed environment – Locating remote Web Services – its access and usage, UDDI Specification – an introduction.
Unit III
A brief outline of Web Services – Conversation – static and interactive aspects of system interface and its implementation, Work Flow – Orchestration and refinement, Transactions, Security issues – the Common attacks – security attacks facilitated within Web services Quality of Services – Architecting of systems to meet users requirement with respect to latency, performance, reliability, QOS metrics, Mobile and wireless Services – energy consumption, network bandwith utilization, Portals and Services Management.

Unit – IV

Building real world Enterprise applications using Web Services – sample source codes to develop Web Services – Steps necessary to build and deploy Web Services and Client applications to meet Customer's requirement – Easier development, Customisation, maintenance, Transactional requirements, seamless porting to multiple devices and platforms.

Unit – V

Development of Web Services and applications onto Tomcat application Server and Axis SOAP server (both are freewares) – Web Services Platform as a set of Enabling technologies for XML based distributed Computing.

REFERENCE BOOKS :

1. Sandeep Chatterjee, James Webber, "Developing Enterprise Web Services: An Architects Guide", Prentice Hall, Nov 2003
2. Keith Ballinger, "NET Web services: Architecture and Implementation with **.**Net", Pearson Education, First Education Feb 2003.
3. Ramesh Nagappan, Developing Java Web Services: Architecting and developing secure Web Services Using Java", John Wiley and Sons, first Edition Feb 2003
4.Eric A Marks and Mark J Werrell, "Executive Guide to Web services", John Wiley and sons, March 2003
5.Anne Thomas Manes, "Web Services: A managers Guide" Addison Wesley, June 2003.

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Paper III : ASP. NET
Subject Title : ASP.NET

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Number of Instruction Hours: 3

Subject Description

This Course presents the Introduction to ASP.NET programming.

Goals

To enable the students to learn what is ASP.NET fundamentals, Components & Web forms

Objective

On successful completion of the course the students should have:

Understood how to build the applications using ASP.NET.

Contents

Unit I

Getting Setup - what is ASP.NET- Setting up for ASP.NET- The development environment – ASP & ASP.NET. An overview – ASP.NET Programming Languages. Programming Basics: Basics of Programming - Program Flow – Effective Coding Techniques –Designing Applications.

Unit II

How Dynamic Website Applications work- Processing ASP.NET with Visual basic. NET:VB.NET Programming Language Structures –Built in ASP.NET objects & Interactivity- The response object –The ASP Server object.

Unit III
Web forms & ASP.NET:

    Web forms- ASP.NET Configuration, Scope and State: ASP.NET and configuration- ASP.NET and state –The application object –ASP sessions – The session object.

Unit IV
ASP.NET objects and components:

    The Scripting Object Model- Active Server Components and Controls –More Active Server Components.

Unit V

   Web services & ASP. NET –WSDL & SOAP- Web services Background – ASP.NET &SQL server- using SQL server –using databases in ASP.NET applications- ActiveX data objects- the ADO.NET objective model –coding structured query language.

REFERENCE BOOKS:
1.Dave Mercer, "ASP. NET A Beginner's Guide", Tata McGraw –Hill Pub. Company Ltd, 2002
2.Matt J. Couch, "ASP. NET and VB. NET Web programming ", Pearson Education, 2002.
3..Kirk Allen Evans, Ashwin Kamanna, Joel Mueller, "XML and ASP.NET", Pearson Education, 2002.

Paper IV : ASP.NET PROGRAMMING LAB

Number of Instructional Hours:3
Subject Description
This course provides the introduction to .NET programming.
Goal :
To enable the students to learn about the development of web based applications using ASP.NET.
Objectives :
On successful completion of the course the students must have
- understood the basics of .NET programming
- got the skill of developing Web Applications
- knowledge to develop database applications in .NET environment.

REFERENCE BOOKS:
1.Dave Mercer, "ASP. NET A Beginner's Guide", Tata McGraw –Hill Pub. Company Ltd, 2002
2..'Beginning ASP.NET 2.0' by Chris Hart.