TEACHING AND EXAMINATION SCHEME FOR
M.Sc. Information Technology Final 2013
Semester III

Paper Name(Theory)	Lec. Hours	Tut. Marks	Exam	Max
Paper 301- Advanced Internet Application	3	1	3	100
Paper 302- Visual Basic Programming	3	1	3	100
Paper 303- Electronic Banking & E-Commerce	3	1	3	100
Paper 304- Data Warehousing & Mining	3	1	3	100
Paper 305- Cyber Law, Internet Security & Cryptography	3	1	3	100
		Total of Theory		500
Paper Name (Practicals)				
Paper 306- Programming Laboratory (Visual Basic Programming)	1	6	6	50
Paper 307- Programme Laboratory (Advance Internet Application)	2	6	6	50
		Total of Practicals		100
		Grand Total (Theory + Practicals)		600

Semester IV

Paper Name(Theory)	Lec. Hours	Tut. Marks	Exam	Max
Paper 401- Project (Report, Viva-Voce)				600
		Total of Theory		600
		Grand Total of all 4 Semesters		2400

Note: Project work of a batch of 30 students shall be assessed by a panel of external Examiner and Internal Examiner both, in 2 days.

M.Sc. (Final) Information Technology 2013
Semester - III

301- Advanced Internet Applications Development and Current Issues in IT

Max Marks:100 Duration: 3 Hrs. Min.Marks:36

Note: Question paper contains ten questions in all. Attempt any five questions. All questions carry equal marks.

Introduction to VB script, Microsoft. Visual Inte Dev IDE The request Object , the Response Object Interacting with sever object, session and Cookies, the sever Context Object, Web Site Development Tools.

Enterprise Java: Servlets, Java Server Pages," Remove Method Invocation, Java Beans, Enterprise Java beans, Java Security, Native Methods, Java Virtual machine, Future of Java application of Java Beans – COBRA, Architecture of COBRA.

EJB- Introduction Transaction Process, Models of Transco-Two Tier Architecture/ Three-Tier Architecture, Distributed Transaction Processing. EJB Server and client features, RMI/COBRA Building and development of EJBs, Design and Implementation of beans.

COM/DCOM- Introduction to com Programming, COM Architecture, COM interfaces, class Factories, Types of COM Server, Active X Controls, Property Pages, Distributed Components.

Active Pages Server- Components, Interfaces, ASP with Database, Connections, Data Sources, Record Sets, Command Objects, Full text search. ASP Custom Components, Creating Multi-tier Distributed Applications, Window DNA, Using ASP with MS Transaction Sever and Message Server.

CORBA- An Architecture of Interoperability, Internet Inter ORB Protocol.

CORBA Filters and dynamic loaders, CORBA and Java servlets. CORBA Beans.

XML- The Purpose and Nature of XML, XML's syntax & structure rules, XML Document Type Declaration, XML's linking mechanisms, XML's style language, Converting HTML documents into XML documents.

Overview of JSP, Swing (JFC) Securities, JINI. Current Issue- Network Securities- IP and Web Security and Secure Transmission, Electronic, Biotechnological Issues. Authentication issues.

Reference Books:

1. Patrick Naughton & Shildt Herbert : Java 2 : The Complete Reference; TMH, 4th Ed. 2001
2. Baartse: Professional ASP,XML; SPD Pub., Mumbai, 2001.
3. Minoli " Internet & Internet Engineering", TMH
4. Inside COM, Dale Rogerson , WP Publisher.
5. Corba Networking with Java (W/CI)by Doss.

6. Stephen W., “Active Pages Server: Unleashed”, Techmedia.
7. Mastering XML (M/CD) by Burman.

302 -VISUAL BASIC PROGRAMMING

Max Marks:100 Duration: 3 Hrs. Min.Marks:36

Note: Question paper contains ten questions in all. Attempt any five questions. All questions carry equal marks.

Introduction: Need Of Visual Languages, Integrated Development Environment (IDE), Advantage Of Visual BASIC, Characteristics And Features Of Visual BASIC, Characteristics And Features Of Visual BASIC-IDE, Project, User Interface, Objects Oriented, Visual Development and Even-Driven Programming, Forms/Graphic Controls, Data Processing, Sharing With Windows And Internet Applications.

Visual BASIC Programming And Tools: An Introduction Of Visual BASIC Programming, Simple Program Construction, Statements, Input/Outputs, Comments, Editor, Subroutines, Control Flow Statements, Objects, and Variants. Visual BASIC Debugging Tools. Runtime Errors Handling.

Designing User Interface: Elements of User Interface, Understanding Forms, Menus And Toolbars, Designing Menus and Tool-Bars, Building Dynamic Forms, Drag-And-Drop Operations, Working With Menus, Customizing The Toolbars.

Active X Controls- Textbox, Combo Box, Scrollbar and Slider Controls Operations. Generating Timed Events. Drawing With Visual Basic Using Graphic, Controls, Coordinate Systems and Graphic Method. Manipulation Colors And Pixels With Visual Basic. Operations with Common Dialogs Printer Object And Reports. Integrating With Microsoft Windows And Office 2000, Concepts Automation, ActiveX And Object Models, Automations With Word 2000, Excel 2000.

Database Programming With Visual Basic-Data Access Methods, Creating, Reaching And Writing Text File. Data Control, Creating Queries.

Reference Books:

1. Petroutsos Evangelos : Mastering Visual Basic; BPB Publications; 1998.
2. Norton’s Peter; Guide to Visual Basic; Techmedia; 1998.
3. Kurata Deborah: Doing Objects in Visual Basic; Techmedia; 1998.
4. Mastering Database Programming With Visual Basic 6 by Petroutsos.

303 ELECTRONIC BANKING AND E-COMMERCE

Max Marks:100 Duration: 3 Hrs. Min.Marks:36

Note: Question paper contains ten questions in all. Attempt any five questions. All questions carry equal marks.

Electronic Commerce Framework, Electronic and Media Convergence, Traditional Vs. Electronic Business Applications, the Anatomy Of E-Commerce Application Overview Of Mobile Computing Technology. Mobile Data Internet and Mobile Computing Applications.

Networks Security and Firewalls: Client Server Network Security Threads Firewalls and Network Security, Data Message Security Encrypted Document And Electronic Mail.

Architectural Framework for Electronic Commerce, World Wide Web As Architecture, Consumer Oriented E-Commerce, Electronic Data Interchange (Ern), EDI Applications In Business, EDI Security Document Management And Digital Ligraries.

Consumer-Oriented Application, Mercantile Process Models Mercantile Models from the Consumer's Perspectives, Mercantile Models from the Merchant's Perspective.

Types Of Electronic Payments Systems, Digital Token Based Electronic Payment Systems, Smart Cards And Electronic Payment Systems, Credit Card-Based Electronic Payment And Security Issues And Measures, Designing Electronic Payment System.

Reference Books:

1. R Kalakola And A.B. Whiston : Frintiers Of Electronic Commerce: Addison Wisely, 1996
2. R. Kalakola And A.B. Whiston : Reading In Electronic Commerce: Addison Wisley, 1997
3. Soka : Form EDI To E-Commerce; Mcgraw Hill, 1995.
4. Greensein, Feinman: Electronic Commerce Security, Risk Management And Control; TMH, 2000.
5. Saily Chan: Electronic Commerce Management: John Wisely; 1998.
6. David Kosiur: Understanding Electronic Commerce, Microsoft Press., 1997.
7. Kamlesh K. Bajaj & DebJani Nag, E-Commerce, The Cutting Edge Of Business, Tata Mcgraw Hill.
8. Pete Locuin and A. Murphy, Electronic Commerce, A Jaico Book.
9. Green Stein" Electronic Commerce", TMH.

304 DATA WAREHOUSING AND MINING

Max Marks:100 Duration: 3 Hrs. Min.Marks:36

Note: Question paper contains ten questions in all. Attempt any five questions. All questions carry equal marks.

Data Warehousing: Introduction To Data Warehouse, Data Warehouse Uses Data Warehouse Planning Stages And Designing Approaches, Delivery Process –Daa Warehouse Delivery Methods.

System Process: Data In Flow Process, Extract And Load Process Clean And Transform Process, Backup And Archive Process And Query Management Process. Process Architecture Load Manager, Warehouse Manager, Query Manager.

Database Scheme: Star Flake Scheme, Identifying Facts And Dimension, Designing Fact Tables And Dimension Tables, Designing Star Flake Scheme Multi-Dimension Schemas. Horizontal and Vertical Partitioning, Hardware Partitioning.

Aggregation And Aggregation Summary Tables. Data Marts, Designing Data Marts.

Metadata- Data Transformation and Load, Data Management, Query Generation, Metadata and Tools, Data Warehouse Process And Load Managers.

Hardware Architecture: Process, Server, Network and Client Hardware, Physical Layout Parallel Technology, Disk Technology, Contents of Data Warehouse Database, Database Structure And Layout And File Systems.

Security: Security Requirements, Impact of Security On Design and Performance, Backup Strategies and Disaster Recovery. Service Agreement and Operations of Warehouse.

Capacity Planning (Process, Estimate Load), Tuning the Data Warehouse (Aggregate Performance, Data Load and Queries). Testing Data Warehouse Develop Test Plan, Testing Backup Recovery. Testing Operational Environmental, Testing Database, Testing Of the Application. Data Warehouse Futures.

Data Mining : Data Mining Concepts, Business, Technical And Social Context For Data Mining. Data Approaches, Data Mining Methodologies, Data Mining Techniques (Automatic Cluster Detection, Decision Tree), Building Good Effective Models, Working With Model Set, Multiple Models. Case Studies Of Data Mining Mode For An Online Bank. Wireless Communication Corporation.

Reference Books:

1. Sam Anahory, Dennis Murray," Data Warehousing", Pearson Education Pub.
2. Michael A. Berry, Gordon S. Linoff, "Mastering Data Mining", Wiley Publishing.
3. Mallach G.Fredn E, "Decision Support System And Data Warehouse Systems", TMH.
4. John Poole, Dan Chang, Doughlas Talbert, "Common Warehouse Metadata Developer's Guide", Wiley Pub.

305 CYBER LAWS, INTERNET SECURITY AND CRYPTOGRAPHY

Max Marks:100 Duration: 3 Hrs. Min.Marks:36

Note: Question paper contains ten questions in all. Attempt any five questions. All questions carry equal marks.

Introduction: Issue In Network Security, Thread To Network Security Service, Basic Concepts Of Encryption And Decryption, Substation Ciphers, Transposition Ciphers. Electronic Mail Security, IP Security, WEB Security, Intruders, Viruses and Worms, Firewalls.

Cyber Laws: Cyber Laws for Cyberspace- Legal Identity and Private International Laws in Cyberspace. IT Act 2000, IT Act 2000, IT Act 2000 In Reference To Email, E-Commerce, Issues Of Privacy. IT Act 2000 and E-Contracts And IT Technology.

The World Of Electronic Contracts- E-Agreements And The Web Surfing, Terms Of Service Contracts, Terms Of Service Agreement For Web Site Owners. Tips of Frame A Private Policy for E-commerce Site.

Cyber Piratesx – Copyright, Digital Contents Right, Steps to Protect The Contents Pf WWW, Software Patent, Domain Name System And Trademarks, ICANN's Functions, Cyber Trademarks Laws. IT Act And Issues Of Copyright, Patent And Trademark, Crimes- Cyber Crimes And Future Imperfect, Strategy I To Combat Cyber Crimes, IT Act 2000 And Cyber Crimes.

Cryptography: Basic Terms and Concepts, Brief History Of Cryptography and Cryptanalysis. Uses and Misuses. Basic Number Theory- Divisibility, Primarily, Bases, Congruence's Modular Arithmetic, GCD's Euclidian Algorithm, Fermat and Euler Theorems, Finding Large Primes, Pohlig-Hellman, RSA.

Basic Information Theory : Entropy, Equivocation, Work Factors, Key Size V/S Message Size, Redundance, Unicity Distance And Perfect Secrecy.

Elementary And Historical Ciphers: Caesar Cipher, Transposition and Substitution, Polyalphabetic Ciphers, Prodeuict Ciphers, DES, IDEA and Exponentiation Ciphers.

Cipher Modes – Block Ciphers, Stream Cipher, Public Vs. Private Keys, Meet-In-The-Middle, LFSRs. Authentication Methods- One Way Ciphers, Authentication Functions, Message Digests, MD5, SHA, Tripwire, Kerberos. Privacy- Enhanced Communication Privacy, Non-Repudiation, Digital Signatures, Certificate Hierarchies, X. 509, PGP, PKI.

Key Management- Threshold Scheme, Random Number Generation, Key Es-Crow, Key Recovery. Application-Mental Poker, Quadratic Residues. Oblivious Transfer and Zer-Knowledge Proofs. Digital Cash, Digital Voting and Contract Signing.

Reference Books:

1. William Stallings," Cryptography And Network Security: Principles And Practice", Person Education, 2000
2. Kernel Texpalan ,"Communication Network Management:, PHI, 1992.
3. D.E. Corner," Computer Networks And Internet", 2nd Edition, Addison Wesley Publication, 2000.
4. Sharma, Vakul, "Handbook of Cyber Laws ", Macmillan India Ltd. 2002.