THIRUVALLUVAR UNIVERSITY

BACHELOR OF SCIENCE

B.Sc. INFORMATION SYSTEM MANAGEMENT

DEGREE COURSE

CBCS PATTERN

(With effect from 2012 - 2013)

The Course of Study and the Scheme of Examinations

S.NO.	Part	Study Components / Course Title		Ins. hrs /week	Credit	Title of the Paper	Maximum Marks		
SEMESTER I							**CIA**	**Uni. Exam**	**Total**
1	I	Language	Paper-1	6	4	Tamil/Other Languages	25	75	100
2	II	English	Paper-1	6	4	English	25	75	100
3	III	Core Theory	Paper-1	6	4	Computer Systems and Elements of Programming	25	75	100
4	III	Core Practical	Practical-1	3	0		0	0	0
5	III	ALLIED-1	Paper-1	4	4	**(to choose any 1 out of 2)** A. Mathematical Foundations B. Financial Accounting I	15	60	75
	III	Allied Practical	Practical	3	0		0	0	0
6	IV	Environ. Studies		2	2	Environmental Studies	10	40	50
				30	**18**		**100**	**325**	**425**
SEMESTER II							**CIA**	**Uni. Exam**	**Total**
7	I	Language	Paper-2	6	4	Tamil/Other Languages	25	75	100
8	II	English	Paper-2	4	4	English	25	75	100
9	III	Core Theory	Paper-2	6	4	Computer Architecture & Organization	25	75	100
10	III	Core Practical	Practical-1	3	3	DTP Lab	25	75	100
12	III	Allied-1	Paper-2	4	4	**(to choose any 1 out of 2)** A. Statistics B. Financial Accounting II	15	60	75

S.NO.	Part	Study Components Course Title		Ins. hrs /week	Credit	Title of the Paper	Maximum Marks		
	III	Allied Practical	Practical-1	3	2	**(to choose any 1 out of 2)** A. Mathematical Foundation & Statistics B. Tally Practical	10	40	50
13	IV	Soft skill		2	1	Soft skill	10	40	50
14	IV	Value Education		2	2	Value Education	10	40	50
				30	**24**		**145**	**480**	**625**
SEMESTER III									
14	I	Language	Paper-3	6	4	Tamil / Other Languages	25	75	100
15	II	English	Paper-3	6	4	English	25	75	100
16	III	Core Theory	Paper-3	3	3	Programming in C	25	75	100
17	III	Core Practical	Practical-2	3	0	Programming Lab in C & C++	0	0	0
18	III	Allied-2	Paper-3	4	4	**(to choose any 1 out of 2)** A. Visual Programming B. Business Communication	15	60	75
19	III	Allied	Practical	3	0		0	0	0
20	IV	Skill Based Elective I	Paper-1	3	3	Transaction Processing System	15	60	75
	IV	Non-Major Elective I	Paper-1	2	2	Concepts of Internet	10	40	50
				30	**20**		**115**	**385**	**500**
SEMESTER IV							**CIA**	**Uni. Exam**	**Total**
21	I	Language	Paper-4	6	4	Tamil/Other Languages	25	75	100
22	II	English	Paper-4	6	4	English	25	75	100
23	III	Core Theory	Paper-4	3	3	Object Oriented Programming with C++	25	75	100
24	III	Core Practical	Practial-2	3	3	Programming Lab in C & C++	25	75	100
25	III	Allied-2	Paper-4	4	4	**(to choose any 1 out of 2)** A. Operations Research B. Cost and Management Accounting	15	60	75
26	III	Allied Practical	Practical-2	3	2	A. Visual Programming & Operations Research Practical B. Business Communication & Cost & Management Accounting Practical	10	40	50

S.NO.	Part	Study Components		Ins. hrs /week	Credit	Title of the Paper	Maximum Marks		
		Course Title							
27	IV	Skill Based Elective II	Paper-2	3	3	Data Warehousing and Mining	15	60	75
	IV	Non-Major Elective II	Paper-2	2	2	Information System Management for Sustainable Development	10	40	50
				30	**25**		**150**	**500**	**650**
SEMESTER V							**CIA**	**Uni. Exam**	**Total**
28	III	Core Theory	Paper-5	6	5	Principles of Management	25	75	100
29	III	Core Theory	Paper-6	6	6	Data Base Management System	25	75	100
30	III	Core Theory	Paper-7	6	5	Java Programming	25	75	100
31	III	Core Practical	Practical-3	3	0		0	0	0
	III	Core Practical	Practical-4	3	0		0	0	0
32	III	Elective	Paper-1	3	3	**(to choose any 1 out of 3)** A. E-Governance & E-Commerce B. Bioinformatics C. Marketing Management	25	75	100
	IV	Skill Based Elective III	Paper-3	3	3	Entrepreneurial Development	15	60	75
				30	**22**		**115**	**360**	**475**
SEMESTER VI							**CIA**	**Uni. Exam**	**Total**
34	III	Core Theory	Paper-8	5	5	Computer Graphics and web Designing	25	75	100
	III	Core Theory	Paper-9	5	5	Software Engineering	25	75	100
	III	Core Theory	Paper-10	5	5	Multimedia	25	75	100
35	III	Core Practical	Practical-3	3	3	Java Lab	25	75	100
36	III	Core Practical	Practical-4	3	3	Computer Graphics and web Designing Lab	25	75	100
37	III	Elective	Paper-2	3	3	**(to choose any 1 out of 3)** A. Management Information System B. Fundamentals of Biological	25	75	100

S.NO.	Part	Study Components Course Title		Ins. hrs /week	Credit	Title of the Paper	Maximum Marks		
						Sciences C. Operating Systems			
	III	Elective	Paper-3	3	3	**(to choose any 1 out of 2)** A. Human Resource Management B. Geo-Informatics	25	75	100
38	IV	Skill Based Elective IV	Paper-4	3	3	Business Ethics	15	60	75
40	V	Extension Activities		0	1		0	50	50
		TOTAL		**30**	**31**		**190**	**635**	**825**

Part	Subject	Papers	Credit	Total credits	Marks	Total Marks
Part I	Languages	4	4	16	100	400
Part II	English	4	4	16	100	400
Part III	Allied (Odd Semester)	2	4	8	100	150
	Allied (Even Semester)	2	6	8	100	150
	Allied Practical	2	2	4	50	100
	Electives	3	3	9	100	300
	Core	10	(3-7)	45	100	1000
	Core Practical	4	3	12	100	400
Part IV	Environmental Science	1	2	2	50	50
	Soft skill	1	1	1	50	50
	Value Education	1	2	2	50	50
	Lang. & Others/NME	2	2	4	50	100
	Skill Based	4	3	12	75	300
Part V	Extension	1	1	1	50	50
	Total	**41**		**140**		**3500**

THIRUVALLUVAR UNIVERSITY

B.Sc. INFORMATION SYSTEM MANAGEMENT

SYLLABUS

UNDER CBCS

(With effect from 2012 - 2013)

SEMESTER I

PAPER - 1

COMPUTER SYSTEMS AND ELEMENTS OF PROGRAMMING

UNIT – I

Elements of Computer Science: Logic machines, Logic transformations, and applications.

UNIT – II

Digital Computers: Information representations in computers, numeration systems and base conversions, error in computer arithmetic, structure of a computer system, a simple CPU, the input/output system, computer peripherals, and machine architectures.

UNIT – III

Overview of computer programming: machine code, assembly language, high level languages, systematic programming, and object oriented programming.

UNIT – IV

Elements of software designs: system software, application software, tools and drivers, MS-DOS Operating System.

UNIT – V

Computer Interconnection: communication between computers, servers and clients, computer networks, the internet and society.

TEXT BOOKS:

1. Bradley, R [1991] Understanding Computer Science, Stanley Thornes Publications
2. Sanders, D.H [1985], Computers Today, McGraw Hill Company.
3. Capron, H.L [1996] Computers: Tools for an Information Age, The Benjamin Publishing Inc, New York.

WEB REFERENCES:

1. http:// www.techsoup.org/learning center/hardware/page5119.cfm
2. http:// techfa.unige.ch/moo/book2/node75.html
3. http:// www.comptechdoc.org/basic
4. http:// www.webopedia.com/term/c/computer.html
5. http:// en.wikipedia.org/wiki/basic_programming_language
6. http:// en.wikipedia.org/wiki/internet

ALLIED - 1

PAPER-1

A. MATHEMATICAL FOUNDATIONS

UNIT – I: SYMBOLIC LOGIC

Proposition, Logical Operations, Conjunction, disjunction, negation, conditional and bi-conditional operators, Converse, Inverse, Contra positive, logically equivalent, tautology and contradiction.

UNIT – II

Sets, Set Operations, Venn diagram, Properties of Sets, Number of Elements in a Set, Cartesian Product.

UNIT – III

Multiplication of Matrices, Singular and Non-Singular Matrices, Ad joint of a Matrix, Inverse of a Matrix symmetric and skew-symmetric, Hermitian and skew- Hermitian, Orthogonal and unitary matrices, Rank of a matrix, Solution of Simultaneous Linear equations by Cramer's rule.

UNIT – IV: MATRICES (Cond)

Test for Consistency and Inconsistency of linear equations, [Rank Method], Characteristic roots and characteristic Vectors, Cayley – Hamilton theorem.

UNIT – V: NUMBER THEORY

Prime Number – Composite Number – Decomposition of a Composite Number as a Product of Primes Uniquely [without proof] – Divisors of Positive integer – Congruence Modulo n-Euler Function [without proof] – Highest power of a Prime Number p Contained in n!

Recommended Text:

1. P.R. Vittal – Mathematical – Margam Publication, (For units 1 to 4).
2. P.R. Vittal Algebra, Analytical Geomentry and Trigonomentry (For unit 5) – Margam Publications.

B. FINANCIAL ACCOUNTING I

UNIT – I

Need, concepts and conventions – Accounting Equation – Rectification of errors – Bank Reconciliation Statement – Self balance ledgers.

UNIT – II

Depreciation, Reserves and Provisions – Depreciation, Depletion and Amortization – Objectives of Providing Depreciation – causes of depreciation – methods of recording depreciation – straight line method – Diminishing Balance Method – Changes in method – Insurance Policy Method – Machine Hour Rate Method – Depletion Mehod – Revaluation Method.

UNIT – III

Account current – Average Due date – Insurance Claim – Abnormal items – Loss of property and Stock – Average clause – Loss of Profit.

UNIT – IV

Final Accounts – Introduction – Manufacturing Account – Trading Account – Distinction between capital and Revenue expenditure – Profit and Loss Account – Balance Sheet – Various adjustments – Classification of Assets and Liabilities – Adjustments.

UNIT – V

Single Entry – Objectives – Definition – Salient features – Limitations of Single Entry – Ascertainment of Profit – Statement of Affairs Method – Conversion Method – Difference between statement and Affairs and Balance Sheet.

REFERENCE BOOKS:

1. M.C. Shukla, T.S. Grewal. Advanced Accounts (Volume – I) S.Chand & Co Ltd., New Delhi.
2. T.S. Reddy& A.Murthy – Financial Accounting – Margahan Publications, Chennai.
3. R.S.N. Pillai, Bagawathi & S.Uma – Advanced Accounting (Financial Accounting) Volume I, S.Chand & Co Ltd., New Delhi.
4. R.L.Gupta & V.K. Gupta, Financial Accounting , Sultan Chand & Sons, New Delhi.
5. S.P.Jain & K.L. Naranj, Advanced Accountancy, Kalayani Publications , New Delhi, Ludhiana.

SEMESTER II

PAPER - 2

COMPUTER ARCHITECTURE AND ORGANIZATION

UNIT – I

Basic structure of computer hardware and software – functional units – Bus structures – performance – evolution – machine instructions and programs – Memory operations – instruction and instruction sequencing – addressing modes – Basic I/O operations – encoding of machine instructions.

UNIT - II

Computer Arithmetic – Logic design for fast adders – multiplication – Boolean algorithm -fast multiplication – Integer division – float point number representation – Float point arithmetic.

UNIT - III

Processing Unit – Fundamental concepts – Execution of a complete Instruction – Multiple bus organization – Hardwired control – Micro – Programmed control – pipelining – Basic concepts – hazards – Inference on instruction sets. Data path and control considerations.

UNIT - IV

Memory organization – Memory system – RAM and ROM – Cache Memories – Performance considerations – virtual memories – virtual memory - address translations – page tables memory management units – secondary memory – disk drives – organization and operations – different standards.

UNIT - V

Input and Output Organizations – Accessing I/O derives – Direct Memory Access [DMA] interrupts – interrupt handling – I/O interfaces – serial and parallel standards – buses - scheduling – bus arbitration bus standards.

TEXT BOOKS:

1. Carl Hamacher, Zvonko Uranesic, Safvat Zaby [2002] “Computer Organization”, 5th edition, McGraw Hill, New Delhi.
2. Hamacher C V [1997], “Computer Organization 4th Edition”, McGraw Hill, New York.
3. Stalling William, [2003] “Computer Organization and Architecture”, 6th Edition Pearson Education.

REFERENCES:

1. David A Patterson and John L.Hennessy [2000], “Computer Organization and Design the Hardware/Software Interface”, 2nd Edition, Harcourt Asia, Morgan Kaufmann.
2. Hayes J P, “Computer Organization and Architecture, 2nd Edition”, McGraw Hill.
3. John P Hayes [1998], “Computer Architecture and Organization”, 3rd Edition, McGraw Hill, New Delhi.
4. Pal Chudhary P, “Computer Organization and Design”, Prentice Hall, New Delhi.
5. Pattersen, D.A and J.L Hennesy, [1998], “Computer Organization and Design: the Hardware / Software interface 2nd Edition”, Harcourt Asia private ltd. [Morgan Kaufman], Singapore.

CORE PRACTICAL - I

DTP LAB

1. Word Processing: Creating .doc file, edit, link, design – mail merge – made template – equation editor – flow chart design – customize – insert data base – save file in different needs [web page, rtf, text etc]
2. Spread Sheet: Creating .xls file, edit, link, import data – formulas and function chart wizard – working with pivot tables – statistics and graphics.
3. Database: creating database, data manipulation in access – statistics – forms – reports.
4. Presentation: Creating a power point presentation, customizing presentation, showing presentation, embedding sounds, animation, linking.
5. Email: a-mail configuration, mail drafts, address book, news groups, http and web search concepts.

Note:

The concept and need for desktop publishing shall be explained with tutorial/ appropriate demonstrations using PPT/QT/Flash etc.

Text Books:

1. Nell Dale, John Lewis [2007] Computer Science illuminated 3.e Narosa Publishing House, New Delhi.
2. Cohen, D.I.A [1997 Introduction to Computer Theory, John Wiley and Sons.

References:

1. Anders, D.H [1985] Computer Today, McGraw Hill Company
2. Stair, R & Reynolds, G 2003, Fundamentals of Information Systems, 2nd edn, Thoms Course Technology, Massachusetts.

ALLIED - 1

PAPER - 2

A. STATISTICS

UNIT – I

Measure of Central Tendency – Mean, Median, Mode and their Merits and Demerits.

UNIT – II

Measure of Dispersion – Range, Mean Deviation, Quartile Deviation, Standard Deviation, Co-Efficient of Variation.

UNIT – III

Skewness – Karl Pearson's and Bowley's Co-Efficient of Skewness.

UNIT – IV

Correlation and regration

UNIT – V

Index Numbers – Moving averages 3-yearly, 4-yearly, 5-yearly weighted aggregate index laapey's Method Paaschy's method fishers ideal method Marshall Edge worth Method family budget method – Seasonal index method.

Recommended Text:

1. S.P. Gupta Statistical Methods – Sultan Chand & Sons.

B. FINANCIAL ACCOUNTING II

Objective

To gain knowledge of accounting in General, to understand the system of Finance Account.

UNIT – I

Branch Accounts – Objects of Branch Accounts – Types of Branches – Dependent Branch – Stock and Debtor System – Accounting System – Independent Branch (foreign branch excluded) – Incorporation of branch trial balance in head office books.

UNIT – II

Departmental Accounts – Distinction between departments and branches – Allocation of Common expenses – expenses which cannot be allocated – Inter departmental transfer at cost of selling price.

UNIT – III

Hire Purchase System – Accounting treatment – Calculation of Interest – books of Hire Purchases and Hire Vendor – Default and repossession – Hire purchase trading account – Installment system – Distinction between Hire Purchase and Installment purchase system – Accounting treatment – books of buys and seller.

UNIT – IV

Partnership Accounts – Fundamentals – Profit and Loss appropriation account – Admission – adjustments in the profit sharing ration – adjustment for revaluation of assets and liabilities – treatment of good will – adjustments for good will – adjustment of undistributed profit or losses – adjustment – rearrangement of capitals – Retirement and death of partners – various adjustments – Joint Life Policy.

UNIT – V

Partnership Accounts – Dissolution of firm – Settlement of accounts – accounting treatment for goodwill and unrecorded assets and liabilities – insolvency of a partner – Garner U Murray – Fixed and Fluctuating Capital – all partners insolvency – Gradual realization and Piecemeal distribution – proportionate Capital Method – Maximum loss Method.

Reference Books :

1. M.C. Shukla, T.S. Growal, Advanced Accounts (Volume 1), S. Chand & Co. Ltd., New Delhi.
2. T.S. Reddy & A. Murthy – Financial Accounting – Margham Publications, Chennai.
3. R.S.N. Pillai, Bagavathi & S. Uma – Advanced Accounting (Financial Accounting) Volume – 1, S. Chand & Co. Ltd., New Delhi.
4. R.L. Gupta & V.K. Gupta, Financial Accounting, Sultan Chand & Sons, New Delhi.
5. S.P. Jain & K.L. Narang, Advanced Accountancy, Kalyani Publications, New Delhi, Ludhiana.
6. Dr. S. Ganesan, S.R. Kalavathy, Thirumalai Publications, Nagarkoil.

ALLIED PRACTICAL - I

A. MATHEMATICAL FOUNDATION & STATISTICS

Exercises:

1. Finding Rank of a Matrix.
2. Verification of Cayley Hamilton Theorem.
3. Tautology and Contradiction.
4. Drawing Venn Diagrams.
5. Mean – Median – Mode.
6. Mean Deviation – Quartile Deviation, CV.
7. Skewness.
8. Correlation.
9. Regration.
10. Moving Average.

B. TALLY PRACTICAL

1. Prepare trading and Profit and Loss Account and Balance Sheet of a Company.
2. Cost category and cost centre
3. Bank Reconciliation Statement
4. Inventory and stock
5. Invoicing
6. Interest Calculation
7. Consolidation of accounts
8. Security Control
9. Display and Reporting
10. Scenario Management and Miscellaneous reports.

SEMESTER III

PAPER - 3

PROGRAMMING IN C

UNIT – I

Overview of C: History - Importance of C - Structure of C programs - Keywords and Identifiers – Constants ,Variables,Datatypes,Declaration of variables - Types of Operator- Evaluation of Expression - Operator Precedence and Assosiativity.

UNIT – II

Managing Input - Output Operators, Decision making Branching and Loops: Types of If statement - Switch statement - Conditional operator - Goto statement - While statement- do statement - for Statement - Continue statement.

UNIT – III

Arrays and Strings: One Dimensional Arrays - Two Dimensional Arrays - Read and Write text - String Handling - Two Dimensional Arrays with String – Pointers - Pointers and Arrays.

UNIT – IV

User-defined functions: Need for functions - Basic form of C functions - Category of functions - Handling Non - Integer Functions - Nesting of Functions - Recurssion-Accesss modifiers - ANSI C Functions - Call by Value,Call by Reference.

UNIT – V

Structures and Unions: Definition of Structure - Structure Initialization - Comparison of Structure Variables - Arrays within Structures - Structures within Structures - Structures and Functions – Unions - Pointers and Structures - File Management in C - Dynamic Memory allocation.

Text Book:

1. Balguruswamy.E[2002] ”Programming IN ANSI-C” Ed.2, Tata McGraw Hill, Publication Company, New Delhi.

Reference:

1. Rajaraman.V [2001] Computer Programming in C, Prentice Hall of India, New Delhi.

ALLIED - 2

PAPER - 3

A. VISUAL PROGRAMMING

UNIT – I

Customizing a form – Writing a simple program – Tool box – Creating control – Name property – Command button – Access keys – Image control – Text boxes – Labels – Message boxes – Grid _editing tools – Variables – Data types – String number.

UNIT – II

Displaying information – Determinate loops, Indeterminate loops – Conditions- built in function – Functions and Procedure.

UNIT – III

Arrays- List- Sorting and searching record - Control arrays – Grid controls – Project with multiple forms - Do events and sub main-Error trapping.

UNIT – IV

VB objects -Dialogue boxes - Common control – Menus - MDI forms-Testing - Debugging and Optimization – working with Graphics.

UNIT – V

File and Handling- File system control – File system objects.

Books for study:

1. Gary Cornell – Visual Basic 6.0 from the ground up – Tata McGraw Hill – 1999.
2. Noel Jerk – Visual Basic (the complete reference) - Tata McGraw Hill – 1999.
3. Deitel&Deitel, T.R. Nieto – Visual Basic6 – Pearson Edition.

B. BUSINESS COMMUNICATION

Objective:

To enable the students to know about the Principles, Objectives and Importance of Communications.

UNIT – I

Features of Business Communication – Importance of Effective Communication in Business – classification of communication – Characteristics (7cs) and guidelines of effective business communication.

UNIT – II

Analysis of business letters – Basic principles in drafting – Appearance, Structure and Layout – letter styles.

UNIT – III

Various types of business letters – Letters of enquiry – offers, Quotations, orders, complaints and settlement, circular letters, status enquiry, collection letters, application for jobs CV, resumes and reference letters.

UNIT – IV

Company correspondence – Correspondence with share holders, Debenture and Fixed deposit holders.

UNIT – V

Bank and Insurance correspondence, Correspondence with Government departments – Modern methods of correspondence – e-mail, internet, Fax, Video conference and their importance.

Reference Books:

1. Rajendra pal and J.S.Korlahalli Essentials of Business Communication – Sultan Chand & Sons, New Delhi.
2. Bovee, Thill, Schatzman 7th Edition pearson publication, New Delhi.
3. Shirley Taylor Communication for business pearson publication, New Delhi.

SKILL BASED SUBJECT

PAPER - 1

TRANSACTION PROCESSING SYSTEM

UNIT – I

Transaction Processing: Definition, principles of transaction processing systems, characteristics of a transaction processing system, rapid response, reliability, inflexibility, controlled processing.

UNIT – II

Batch transaction processing [BTP]: Real Time Processing [RTP], Transaction Processing Monitor – transaction initiation, field checking; manual transaction systems.

UNIT – III

Online transaction processing [OLTP]: Data Base Transactions, commercial transactions, electronic banking, e-commerce and e-trading, merit and demerits of OLTP.

UNIT – IV

Applications of BTP: Components of TPS, cheque clearance, generation of bills, credit card transactions; applications of RTP; reservation systems, point of sale, library loans.

UNIT – V

Storing and Retrieving: data base files: hierarchical, network and relational structure; design for a TPS, data warehousing; files and TPS, backup procedures, issues related to transaction processing systems.

TEXT BOOKS:

1. Jim Gray [1997] Transaction Processing: Concepts and Techniques [Margan Kaufmann Series in Data Management System], ISBN13: 9781558601901, Morgan Kaufmann Publishers, USA.
2. E.V. Krishnamurthy, E.V. Murthy [2002], V.K. Transaction Processing Systems, Prentice Hall Advances in Computer Science Series, India.

REFERENCES:

Philip A. Bernstein and Eric Newcomer [2009] Principles of Transaction Processing, The Morgan Kaufmann Series in Data Management Systems.

WEB REFERENCES:

1. http://en.wikipedia.org/wiki/Transaction _Processing
2. http://bettscomputers.com/moodle/course/view.php?id=40
3. http://en.wikipedia.org/wiki/online_transaction_processing

NON-MAJOR ELECTIVE

PAPER-1

CONCEPTS OF INTERNET

UNIT-I

Introduction to Internet: History - Applications - Users - Internal terminology - connecting the Internet - dial-up access - direct or dedicated connections - shell and TCP/IP account - domain and IP addresses.

UNIT-II

World Wide Web WWW - Web Browsers - Hyper Text Markup Language HTML -
Universal Resource Locator URL - search engines.

UNIT-III

Internet services - Protocols internet tools - e-mail - file transfer protocol – FTP terminology - Line mode FTP - GUI based FTP - browser for FTP – interactive communication on the Internet - chatting - Internet relay chat IRC - net meeting –
video conferencing.

UNIT-IV

Web Resoures - Online shopping – Entertainment - Health and Medicine - Web as library Searching for Information – usenet Newsgroup.

UNIT-V

Concepts of Networking - advantages - topology – Basic element in Networking - Network connecting Devices - LAN – MAN - WAN – Ethernet.

Text Books:

1. Internet - An Introduction - CIS terms series.
2. Daniel Minoll and Emma Minoli - Web Commerce Technology.
3. Corner - The Internet Book - Prentice-Hall Of India.

References:

1. Margaret Levine Young -The complete reference Internet –Millennium Edition-TATAMcGRAW-HILL Edition.
2. Jaiswal – Networking Technologies – 1st Edition – Galgotia – 2001.

SEMESTER IV

PAPER - 4

OBJECTED ORIENTED PROGRAMMING WITH C++

UNIT - I

Principles of Object Oriented Programming (OOP) : Software Evolution - OOP Paradigm - Basic Concepts of OOP - Benefits of OOP - Object Oriented Languages - Applications of OOP.

UNIT - II

Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++; Pointers - Functions in C++ - Main Function - Function Prototyping - Parameters Passing in Functions - Values Return by Functions - inline Functions - Friend and Virtual Functions.

UNIT - III

Classes and Objects; Constructors and Destructors; and Operator Overloading and Type Conversions - Type of Constructors - Function overloading.

UNIT - IV

Inheritance : Single Inheritance - Multilevel inheritance - Multiple inheritance - Hierarchical Inheritance - Hybrid Inheritance. Pointers, Virtual Functions and Polymorphism; Managing Console I/O operations.

UNIT - V

Working with Files : Classes for File Stream Operations - Opening and Closing a File - End-of-File Deduction - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments.

REFERENCES:

1. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia publication.
2. H.Schildt, C++: The Complete Reference, TMH Edition, 1998.
3. E. Balagurusamy, 'Object Oriented Programming with C++', Tata McGraw-Hill Publishing Company Ltd., 1995.

CORE PRACTICAL II
PROGRAMMING LAB IN C AND C++

Part – I (C – Practical)

I. SUMMATION OF SERIES:

1. Sin(x), 2. Cos(x), 3. Exp(x) (Comparison with built in functions)

II STRING MANIPULATION:

1. Counting the no. of vowels, consonants, words, white spaces in a line of text and array of lines.
2. Reverse a string & check for palindrome.
3. Sub string detection, count and removal.
4. Finding and replacing substrings.

III RECURSION

1. ${}^{n}P_{r}, {}^{n}C_{r}$
2. GCD of two numbers
3. Fibonacci sequence
4. Maximum & Minimum
5. Towers of Hanoi

IV MATRIX MANIPULATION:

1. Addition
2. Subtraction
3. Multiplication

V SORTING AND SEARCHING:

1. Insertion Sort
2. Bubble Sort
3. Linear Search
4. Binary Search

PART – II (C++ PRACTICAL)

1. Program to implement classes, create object and member functions.
2. Program to implement the concept of function overloading.
3. Program to implement the concept of Operator Overloading.
4. Program to implement the concept of inheritance.
5. Program to implement file handling concepts.
6. Program to implement Constructor and Destructor.
7. Program to implement Binary Search.
8. Program to implement Bubble Sort.
9. Program to implement GCD of two numbers.
10. Program to implement Matrix Addition.

ALLIED - 2

PAPER - 4

A. OPERATIONS RESEARCH

UNIT – I

Development of OR – Defining of OR – Modeling – Characteristics and Phases – Tools Techniques and Methods – Scope of OR.

UNIT – II

Linear Programming Problem - Formulation – Stack and Surplus variables – Graphical Solution of LPP-Simplex Method – Computational Procedure – Artificial variables techniques – Big M Method and Two Phase Method.

UNIT – III

The Transportation and Assignment problem: A streamlined simplex method for the transportation problem, the assignment problem, algorithms for assignment problem.

UNIT – IV

Network Analysis: PERT/CPM – Basic concepts, preparation of network diagram computation of critical path, PERT cost, applications of PERT, Limitations of PERT/CPM.

UNIT - V

Game Theory Introduction – Two person zero sum game – Basic terms – Games with saddle point games without saddle point – Graphical solution – Dominance property – Arithmetic method – General Solution of m*n rectangular game.

TEXT BOOKS:

1. Looma. N.P [1999] “Linear Programming”.
2. Sharma. J.K, “Operation Research, Theory”, Macmillan, India.
3. Taha, H.A [2002], “Operations Research an Introduction”, Prentice – Hall of India, New Delhi.
4. Operation Research by Kanti Swarup P.K.Gupta and ManMohan sultan Chand and sons Publication.

REFERENCES:

1. Hiller, L.S. and G.J. Liebarman, [2001], “Introduction to Operations Research”, McGraw Hill Pub. Co., Singapure.
2. Sharma. J.K [2003], “Operations Research – Theory and Application”, Macmillan

WEB REFERENCES:

1. http:// en.wikipedia.org/wiki/Operations_research
2. http:// en.wikipedia.org/wiki/Linear_programming
3. http:// en.wikipedia.org/wiki/tit_tat
4. http:// en.wikipedia.org/wiki/simplex_algorithm

B. COST AND MANAGEMENT ACCOUNTING

UNIT – I

Cost Accounting - Meaning, Definition, Nature and Scope – Objectives –Advantages and limitations – Elements of cost – Financial versus Cost Accounting. Cost System – Types of costing and Cost classification, cost unit- cost centre and profit centre.

UNIT – II

Material Cost: Meaning of material, need of material control – essential material control- advantages, limitations. Store records – purchase order – methods of pricing – issues of material. Methods – FIFO- LIFO – Simple Average- weighted average – Goods Received note – Bin Card – Store Ledger- Purchase, receipts and inspection – Inventory control – EOQ – ABC Analysis.

UNIT – III

Labour : Meaning of Labour – Importance of Labour, labour cost control, Causes, methods of measurement and reduction of labour turnover – Idle time and over time- methods of wage payment – time rate system – piece rate system : Taylor's , Merricks and Gantt's Task – Premium bonus system – Halsey plan, Rowan plan. Over head : classification of overheads- primary distribution overhead – secondary distribution overheads – direct distribution and continued distribution methods.

UNIT – IV

Management Accounting : Meaning, Definition, Objectives, function, advantages and limitation – difference between management accounting and financial accounting – difference between management account and cost accounting- financial statements – comparative and common size statements – Trend analysis.

UNIT – V

Fund flow statement: Meaning – uses of fund flow statement – schedule of changes in working capital – fund flow statement – cash flow statement: meaning – uses – difference between fund flow and cash flow statement – preparation of cash flow statement.

Theory: 60% Problem: 40%

REFERENCE BOOKS:

1. Cost and Management Account – Y.Hari Prasad Reddy, T.S. Reddy – Margam Publications
2. Cost and Management Accounting – S.P.Jain and K.L.Narang – Kalyani Publishers.
3. Cost and Management Accounting – S.N.Mageshwari – Sulthan Chand
4. Cost and Management Accounting – A.Murthi. – S.V.Publications.

ALLIED PRACTICAL – II

A. VISUAL PROGRMMING & OPERATION RESEARCH

Part – I (VB Practical)

1. Building simple application.
2. Working with Intrinsic controls and ActiveX controls.
3. Application with multiple forms.
4. Application with dialogs.
5. Application with menus.
6. Application using data control

A. 7 .Application using format dialogs

7. Drag and Drop events.
8. Database Management.
9. Creating ActiveX controls.

Part – II (O.R Practical)

1. Formulating and solving Linear Programme Models [LPM] on a simple spreadsheet such as maximizing revenue – minimizing cost – operating under constraints.
2. Formulating strategies for transporting finished goods for markets.
3. Traveling salesman problem.
4. Computation of critical path for a project.
5. Computation and applications for game Theory.

B. BUSSINESS COMMUNICATION & COST AND MANAGEMENT ACCOUNTING

Part – I (Internet Practical)

1. To create a dialup connection for internet
2. To create a e-mail account
3. To create & send a e-mail
4. Message Forwarding & Sending e-mail to multiple address.
5. Chatting using internet.

Part – II (Cost and Management Accounting Practical)

1. Prepare FIFO with the help of your own data.
2. Prepare LIFO with the help of your own data.
3. Prepare Simple Average with the help of your own data.
4. Prepare Weighted Average with the help of your own data.
5. Preparation of Overhead with primary distribution.
6. Preparation of Overhead with secondary distribution.
7. Calculated comparative balance sheet with your imaginary figure.
8. Prepare common size statement with imaginary figure.
9. calculate trend analysis
10. Preparation of fund flow statement with imaginary figure.
11. Preparation of cash flow statement with imaginary figure.

SKILL BASED SUBJECT

PAPER - 2

DATA WAREHOUSING AND MINING

UNIT – I

Data ware housing: Need for data warehousing, basic elements of data warehousing, trends in data warehousing, Project planning and management, collecting the requirements. Architectural components, infrastructure and metadata.

UNIT – II

Data design and Data Representation: Principles of dimensional modeling, Dimensional modeling advanced topics, data extraction, transformation and loading, data quality, information access and delivery

UNIT – III

Matching information to classes of users, OLAP in data warehouse, Data warehousing and the web, implementation and maintenance: physical design process, data warehouse deployment, growth and maintenance.

UNIT – IV

Fundamentals of data mining: data mining techniques and algorithms- classification, clustering, association rules, Web mining – web content mining, web structure mining, web usage mining, spatial data mining, temporal mining.

UNIT – V

Data generalization and summarization-based characterization, analytical characterization: analysis of attribute relevance, mining class comparisons-data mining primitives, Query language, application and trends in data mining.

Text Books:

1. Paulraj Ponniah, Data Warehousing Fundamentals, John Wiley.
2. M.H. Dunham, Data Mining Introductory and Advanced Topics, Pearson Education.
3. Han, Kamber, Data Mining Concepts and Techniques, Morgan Kaufmann
4. Kantardzic, Mehmed [2003]. Data Mining: Concepts, Models, Methods, and Algorithms. John Willey & Sons.

References:

1. Ralph Kimball, The Data Warehouse Lifecycle toolkit, John Wiley.
2. M.Berry and G.Linoff, Mastering Data Mining, John Wiley.
3. IW.H.Inmon, Building the Dtat Warehouse, Wiley Dreamtech
4. Weiss, Sholom M.[1998] Predictive data mining: A Practical guide / Sholom M. Weiss, Nitin Indurkhy. – san Francisco, Calif.: Morgan Kaufmann Publishers
5. Usma M. Fayyad.(ed) [1996] Advances in knowledge discovery and data mining AAAI Press; Cambridge, Mass; London

Web Resources:

1. http://www.dbminer.com/
2. http://en.wikipedia.org/wiki/Data warehouse
3. http://en.wikipedia.org/wiki/Data_mining

NON-MAJOR ELECTIVE

PAPER-2

INFORMATION SYSTMS MANAGEMENT FOR SUSTAINABLE DEVELOPMENT

UNIT – I

Information Technology: Need for information technology; information technology firms; what they are and how they do things; Opportunities the IT industries offer.

UNIT – II

Information Systems: Concepts and overview of information systems; A systematic framework for information systems; Components of information systems; information systems design, analysis and management

UNIT – III

Database Management Systems for information Systems: Data resources, structure and functional aspects: graphic database, data storage and hypermedia; Data design issues and output designs.

UNIT – IV

Internet and systems [SIS] for Sustainable Development: concepts and theory of SIS, Role of SIS for Sustainable Development, Sustainable Development Planning and Decision making based on SIS

Text Books

1. Hilty L.M.Seifert E., Treibert R[2004] information Systems for sustainable Development, Idea Group Publishing, Hershey, PA, USA
2. O'Brien, J.A.1999: Management Information Systems, New York: Irwin – Mcgraw Hill.

References:-

1. http://www.umich.edu/~linet/chinadata/geoim99/Proceedings/Chen Xiuwan.PD.
2. www. Gisdevelopment.net/policy/gii/gii0022b.htm

SEMESTER V

PAPER - 5

PRINCIPLES OF MANAGEMENT

UNIT – I

Fundamentals of Managements – Basic Principles and Process of Management and administration – Planning – Distinguishing between operational and Strategic Planning.

UNIT – II

Functions of Managers: Planning – Organizing – Staffing – Leading – Controlling Control techniques and Information technology.

UNIT – III

Levels of Managements: Top-Level Managers – Middle-Level Managers – First-Level Managers – Time Spent in carrying out Managerial Functions.

UNIT – IV

Management Skills and Organizational Hierarchy: Technical Skills – Human Skills – Conceptual Skills – Design Skills.

UNIT – V

Approaches to Management: methods for performing jobs-select workers with appropriate abilities for each job – Training for standard task- planning work and eliminating interruptions – wage incentive for increase for increase output.

TEXT BOOKS:

1. Koontz Harrold and weihrich Heinz [1990], "Essentials of Management – McGraw Hill, Fifth Edition.
2. Tripathy and P.N.Reddy [1992]: Principles of Management, Tata McGraw Hill, New Delhi.

REFERENCES:

1. Button Gene and Thakur Manab [1996], "Management Theory – Principles and Practice", Tata McGraw Hill, New Delhi.
2. Chandra Bose [2001], "Principles of Management and Administration", Prentice Hall of India, Delhi.
3. Robbines [2002], "Management", 7th Edition, Pearson Education, Delhi.

PAPER - 6

DATABASE MANAGEMENT SYSTEM

UNIT – I

Introduction: Database – Definition of DBMS – purpose of Database – Overall System structure – Entity Relationship model – Mapping constraints – E.R Diagrams

UNIT – II

Relational Model – Structure – Formal Query Language – Relational Algebra – Tuple and Domain Relational Calculus.

UNIT – III

Oracle: Data types – SQL - Data Definition Language (DDL): Creating table – Altering table – Truncating Table dropping a table. Data Manipulation Language (DML): Insert, select, update and delete command. Transactional Control Language: commit, Rollback. Data Control Language: Grant and Revoke privileges

UNIT – IV

Joins – simple join, self join, Outer join. Set Operators – Union, Union all, Intersect, minus. Integrity Constraints - Unique, primary key constraints, Not Null, check constraint.

UNIT – V

PL/SQL : PL/SQL blocks – procedures – functions – Cursor management – triggers- Exception Handling.

TEXT BOOK:

1. Singh – Database System : Concepts, Design & Applications, Pearson Education.
2. Abraham Silberschatz, H.F.Korth and S.Sundarshan- Database system concepts- Mcgraw Hill Publications.
3. Michael Abbey And Micael. J.Corey – Oracle – A Beginners guide. TMH

PAPER - 7

JAVA PROGRAMMING

UNIT – I

Java Basics: Java Features - Comparison of Java with C and C++ - Java and Internet -Java Environment - Java Progran structure - Java Tokens - Implementing Compiling and running Simple Java Programs - Java Virtual Machine – Constants, Variables, Data Types - Scope of Variables - Type Casting.

UNIT – II

Operators and Control Statements: Types of Operator - Operator Precedence and Associativity - if Statement - Switch Statement - Conditional Operator Statement - While Statement - do Statement - for Statement.

UNIT – III

Classes and Arrays: Defining a class and methods – Constructors - Methods Overloading-Static members - Nesting of Methods – Inheritance - Overloading Methods - Final classes - Abstract Methods and classes - Visibility Control – Arrays - Creating an array - Two Dimensional Arrays - Strings.

UNIT – IV

Defining Interfaces - Extending Interfaces - Implementing Interfaces - Java API Packages - Defined Packages - creating Threads – Extending the Thread class – Life Cycle of a Thread - Thread Proprity – Exceptions - Exception Handling - Multiple Catch Statements - Finally Statement.

UNIT – V

Applet Programming: Difference between Application and Applets - Applet Life Cycle -creating an executable Applet - Designig a web page - Adding Applet to HTML File -Passing Parameters to Applets.

Text Book:

1. Balguruswamy,E[2000], “Programming with Java –A Primer”, Second Edition, Tata McGraw Hill Publishing Company, Delhi.

Reference:

1. Herber Schildt,[2002]. “The Complete Reference – Java 2”, Fifth Edition, Tata McGraw Hill Publishing Company , Delhi.

ELECTIVE SUBJECT

PAPER - 1

A. E – GOVERNANCE & E – COMMERCE

E – GOVERNANCE

UNIT – I

Introduction of e-governance: definition and need for e-governance – internet infrastructure and e-governance – e-governance in development – internet and e-governance.

UNIT – II

IT Governance and administration: Definitions, background, problems with IT governance, e-governance, voluntary sector – public finance.

UNIT – III

Introducing e-governance: Fields of implementation of e-governance – e - administration – e - services – e - democracy – service provision and public participation – government initiatives.

E – COMMERCE

UNIT – IV

Introduction to E-Commerce: Meaning of e-commerce – On-line Business-Driving business processing re-engineering, designing, developing and deploying the system.

UNIT – V

Selecting the Technology: Internet networking – Exploring the IT infrastructure – Deciding on the enterprise middleware – choosing the right enterprise application – building the business application – avoiding legal issues.

TEXT BOOKS:

1. Komoito. L [1998]. Paper work and electronic files: defending professional practice. Journal of information technology, 13, 235-246.
2. Pye, R [1992]. An overview of civil service computerization, 1960-1990. Dublin: Economic and social Research Institute.
3. David Whitely, [2000], “E-Commerce, Strategy, Technologies and Applications”, McGraw Hill. Singapore.
4. Elias M.Awad, [2002], “Electronic Commerce From Vision to Fulfillment”, Prentice – Hall of India, Delhi.

REFERENCES:

1. Tsagarousianou, R ., Tambini, D., & Bryan, C, [Eds] [1998]. Cyber democracy: technology, cities and civic networks. London: Routledge.
2. Shalilendra C. Jain Palvia and Sushil S. Sharma [2007]. E-Government and E-Governance: Definitions/Domain Framework and Status around the World.
3. Kamesh K.Bajaj and Debjani Nag, [2000], "E-Commerce, The Cutting Edge of Business", Tata McGraw Hill Pub Co., New Delhi.
4. Paul J Jackson, Lisa and Harris, Peter M [2003] E-Business Fundamentals, Taylor & Francis e-Library, New York.

B. BIO – INFORMATICS

UNIT – I

Protenis; Characterization of protein molecules – sedimentation analysis molecular exclusion, chromatography and SDS gel electrophoresis. Determination of amino acid sequence of proteins. Chemical synthesis of peptides.

UNIT – I

Denaturation and renaturation, orders of protein structure, primary and secondary structures – a – helix, β sheet and β – turns. Tertiary structure – a and β.

UNIT – III

Nucieic acids and DNA double helical, Watson and Crick Model. A,B,Z, forms. Triple and Quadruple structures. Concepts of Replication, transcription and translation.

UNIT – IV

Molecular markers for mapping. RFLPs, Chromosome walking. STS and ESTs, positional cloning, SAGE and Cluster analysis. Software programmes and database tools. Sequence analysis at whole genome level: BCRs. ACRs, orthologues, paralogues orphan genes.

UNIT – V

Scope of bioinformatics, useful search engines, Boolean searching, uses of Nucleic acid databases, proteins sequences [NCBI, Swiss port, Beranda] using of software like FASTA and BLAST, HEX, Vasmol, Swiss PDB, Argus lab.

Text Books:

1. Lesk, A.M., [2002], “introduction to Bioinformatics”, Oxford Uni. Press, New Delhi.
2. Lewin, B.,[2000], “Genes VIII”. Oxford Uni. Press, New Delhi
3. Ranga, M.M.,[2004], “ Bio informatics”, Panima Book Publishing Company, New Delhi.

References:

1. Primrose,[2003], " Principles of genome analysis", Blackwell Science.
2. Campbell and Heyer, [2002], " Discovering genomics, proteomics and bioinformatics", Cold spring Harbor Laboratory Press,
3. Nicholl, D.S.T., [2002], " An introduction to genetic engineering". 2nd Edition. Cambridge university Press,

Web Resources:

1. http://www.ensebl.org
2. http://www.ncbi.nlm.high.gov/genbank
3. http://www.proteinstructure.com

C. MARKETING MANAGEMENT

UNIT – I

Fundamentals of marketing – Role of marketing – Relationship of marketing with other functional areas – Concept of marketing – various definitions of marketing- Marketing management of product services and selling – Marketing approaches – various environmental factors affecting the marketing functions.

UNIT – II

Buyer Behavior – consumer goods and Industrial goods – Buying motives – Buyer Behavior model- Factors influencing buyer behavior.

Market Segmentation – Need and Basis of Segmentation – Marketing Strategy- Segmentation – Targeting – Positioning.

UNIT - III

Sales Forecasting – Various methods of Sales Forecasting – Analysis and Application. Product – Characteristics – Benefits – Classification – New Product development process – Product life cycle – Product Portfolio analysis – Product line and Product mix decision.

UNIT – IV

Pricing – factors influencing pricing decisions- pricing objectives – pricing policies and procedures – pricing strategies – physical distribution – importance of various kinds marketing channels- Distribution problems .

UNIT – V

Promotion – Advertising – Publicity – Public relations – Personal Selling – Sales promotion administration.

REFERENCE BOOK:

1. Marketing – Rajan Nair – Sulthan Chand & Co.
2. Marketing – J.Jaya Shankar – Margam Publication
3. Marketting Management – Saxena - McGrawHils
4. Modern Marketting – R.S.N.Pillai and Bagvathi - S.Chand.

SKILL BASED SUBJECT

PAPER - 3

ENTREPRENEURIAL DEVELOPMENT

OBJECTIVE:

To gain knowledge about setting – up and managing a business

UNIT – I

Meaning of Entrepreneur – Entrepreneur and Enterprise – Entrepreneur and manager – Entrepreneur and Intrapreneur – Qualities (Traits) of a True Entrepreneur Characteristics of Entrepreneur – Types of Entrepreneurs – Functions of an Entrepreneur – Roles of Entrepreneurs in the Economic Development.

UNIT – II

Establishing an Enterprise – Project Identification – Selection of the Product – Project Formulation – A Assessment of Project Feasibility – Preparation of Project Report – Selection of Site (Location)

UNIT – III

Selection of Types of Organization – Sole Proprietorship – Partnership joint stock Company – Factors Influencing the Choice of Orgainzation – Sources of Project Finance – Sources of Long Term Finance – Sources of Short Term Finance.

UNIT – IV

Incentives and Subsidies – Meaning of Incentives and Subsidies – Need and Problems Incentives for Development of Backward Area – Incentives for SSI Units in Backward Areas – Incentives for SSI Units – Subsidies and Incentives in Tamil Nadu.

UNIT – V

Women Entrepreneurs – Concept – Functions and Role – Problems of Women Entrepreneurs – Suggestions for Development of Women Entrepreneurs – Rural Entrepreneurship – Need – Problems – How to Develop Rural Entrepreneurship.

REFERENCE BOOKS:

1. C.B.Gupta – Entrepreneurship Development in India – Sultan Chand
2. Jayashree Suresh – Entrepreneurial Development – Margham Publications
3. P. saravanavel – Entrepreneurial development – Ess pee kay pub. House
4. Dr.S.S.Khanka – Entrepreneurial Development – S.Chand.

SEMESTER VI

PAPER - 8

COMPUTER GRAPHICS AND WEB DESIGNING

UNIT – I

Overview of Computer Graphics System: Overview of Computer Graphics system – Video display devices – Raster Scan and random scan system – **Primitives and Attributes:** Drawing a line, circle and ellipse generating algorithms – Scan line algorithm – Character generation – attributes of lines, curves and characters

UNIT – II

TWO Dimensional Viewing and Geometric Transformation: Principles of viewing – windowing – clipping – co-ordinate reference frame – basic transformation – scaling and rotations.

UNIT – III

THREE Dimensional Objects: Object display methods – Depth Presentation – stereoscopic views – surface models – cubics– splines and curves – 3D viewing – Elimination and surface rendering – Color and animation.

UNIT – IV

HTML – Forms – Tables – Web page design – Java Script Introduction – Control Structures – Functions – Arrays – objects – simple web application.

UNIT – V

Dynamic HTML – Introduction –Cascading style sheets – Servlets – Deployment of simple servlets – Web Server(Java web server/Tomcat/web logic) – HTTP GET and POS Requests – Session – Cookies- JDBC connectivity.

Text Books:

1. Asthana, R.G.S. and Sinha, N.K.,(1996),"Computer Graphics" New Age Int.Pub.(p)Ltd., publishers.
2. Hearn, D. and Pauline Baker, M. (1987),"Computer Graphics(C-Version)" 2nd Edition, Pearson Education, Delhi.
3. Jennifer Niederst(1999) Web Design in a Nutshell, Shroff Publishers Pvt. Ltd, Mumbai

PAPER - 9

SOFTWARE ENGINEERING

UNIT – I

Introduction to Software Engineering: Definition – size factor- Quality and Productivity Factors – managerial Issues. Planning a software Project: Defining the Problem – Goals and Requirements – solution strategy. Planning the development Process: Various Models – Planning an Organizational Structure – Planning Activities.

UNIT – II

Software cost estimation: Introduction – Software cost Factors – Software cost Estimation – Estimating Software maintenance Costs. Software Requirement: Definition – Software Requirement specification – Specification Techniques.

UNIT – III

Software Design: Design concept – Modules and Modularization Criteria – Design Notation –Design Considerations – Test Plans – Milestones, Walkthroughs and Inspections. Design Guidelines Implementation Issues : Structure Loading Techniques – Coding Style.

UNIT – IV

Modern Programming Languages Features: Type Checking – User defined Data Types – Scoping Rules – Exception Handling. Verification and Validation Techniques : Quality Assurance – States Analysis.

UNIT – V

Unit Testing and Debugging – System Testing – Formal verification. Software Maintenance – Maintainability. Configuration Management – Source Code Metrics – Other maintenance Tools and Techniques.

TEXT BOOK:

Software Engineering Concepts 1997 Edition
Author: RICHARD FAIRLEY Publishers: TATA Mc GRAW-Hill Edition.

REFERENCE BOOKS:

1. Software Engineering VI Edition, Author: ROGER S.PRESSMAN
Publishers : TATA McGRAW HILL Interanational Edition.

PAPER - 10

MULTIMEDIA

UNIT – I

Definition – classification – Applications of Multimedia – Multimedia Hardware – Multimedia Software – CDROM- DVD

UNIT – II

MM Audio: Digital Audio Technology – sound cards – recording and editing – MIDI Fundamentals – Working with MIDI – audio file formats.

Unit – III

MM Text: Text in Multimedia. MM Graphics: Coloring- digital imaging fundamentals- developing and editing – file formats.

UNIT – IV

MM Animation : Computer animation fundamentals- kinematics- morphing – animation software tools and techniques.
MM Video : Digital Video fundamentals – digital video production and editing techniques – file formats

UNIT – V

MM Project : Various stages of MM project design and development – MM Skills – MM team – MM authoring.

TEXT BOOK:

1. Multimedia Magic – S.Gokul revised and updated second edition – BPB

Reference Book:

1. Multimedia Making it work – Tay Vaughen 6th edition – TMH.

CORE PRACTICAL III

JAVA LAB

1. Simple Arithmatic Calculation.
2. Decision making
3. Looping
4. String Manipulation
5. Constructor Overloading
6. Create Simple Package
7. Implementing thread using thread class
8. Working with Colors and Fonts
9. Drawing various shapes using Graphical Statement
10. Usage of Buttons,Labels,Text Components in suitable application.

Text Book:

1. Balguruswamy,E[2000], "Programming with Java –A Primer", Second Edition, Tata McGraw Hill Publishing Company, Delhi.

Reference:

1. The Complete Referece Java™2 Third Edition, Patrick Naughton, Herbert Schildt, Tata McGraw-Hill Publishing Company Limited, New Delhi.

CORE PRACTICAL - IV

COMPUTER GRAPHICS & WEB DESIGNING LAB

Computer Graphics:

1. Bresenham's algorithm for drawing line, circle and ellipse.
2. Graphic primitives (Line, Circle, Box etc.)
3. 2D transformation (scaling, translation, rotation, reflection and shearing).
4. Clipping and windowing.
5. 3D transformations (scaling, translation and rotation).

Web Designing:

1. Create a simple page introducing yourself how old you are, what you do, what you like and dislike. Modify the introduction to include a bullet list of what you do and put list the 5 things you like most and dislike as numbered lists. Create another page about your favorite hobby and link it to (and form) your main page. Center something, and put a quote on one of your pages.
2. Put an existing image on a web page. Create a table, use a heading and at least one use of row span/col. Span. Color a page and some text within the page. Link to another site.
3. Create a new file called index. Html.
    - Put the normal HTML documents structure tags in the file.
    - Give it a title.
    - At the bottom of the page (i.e. the last thing between the body tags) put the following:
    - A horizontal rule.
    - A Link to your e-mail Address (with your name between the tag); remember to put the link to your E-Mail address within address tags.
    - A line break.
    - The date. (I have this same structure at the bottom of this page).
    - Above this block (which is called the footer), put a title in headings tags.
    - Add some text describing yourself (you can split this into multiple headings and Paragraphs if you wish)
4. Write a script to create an array of IO elements and display its contents.
5. Write a function in java script that takes a string and looks at it character by character.

ELECTIVE

PAPER - 2

A. MANAGEMENT INFORMATION SYSTEM

UNIT - I

Definition of Management Information System - Structure of MIS - Information system for decision making - The role of system analyst - Data base management system

UNIT - II

Computes and Information Processing - Classification of computers - Main frames - Mini Computers - workstations - micro computers - super computers - Personal Computers - Input Devices - Computer mouse - touch screen - MICA - OCR - pen based input - digital scanners - voice input devices - sensors - Output devices - video display terminals - printers - plotters - voice output devices - Secondary storage - magnetic disk storage - magnetic tape storage - optical disk storage.

UNIT - III

System Analysis - System Planning and the mutual investigation - Information gathering MIS Organisation - Top management - Data processing group's responsibility

UNIT - IV

Management and MIS - Strategic information system - MIS as competitive advantage - implications for managers - MIS support for planning, organizing, operating, controlling an knowledge work - specific function - finance - personnel - production - materials - marketing - computer - hardware and software - Data representation in computers - Batch Processing Vs. online processing.

UNIT - V

Decision Support System - definition - examples of DSS - components - building DSS - Group Decision Support System - GDSS tools - role of GDSS - Executive System - role developing DSS - bene fits - examples.

TEXT BOOK :

1. Management Information System - Gordan B. Davis
2. Sadagopan - Management Information Systems - Prentice-Hall of India
3. Mudrick & Ross - Management Information Systems - Prentice-Hall of India

REFERENCE BOOKS :

1. Rajagopal SP - Management In formation System
2. Lawrence S. On/la - Introduction to Business Data
3. Davis - Computer Data Processing
4. Laudon & Laudon - Management In formation Systems - Prentice-Hall Of India.

B. FUNDAMENTALS OF BIOLOGICAL SCIENCES

UNIT- I

Microbial world: Structure of bacteria, virus and alchae, Environmental and industrial application of microbes. Food microbiology – food spoilage, food preservation and fermentation.

UNIT – II

Classification and morphology of plant: Outline of Classification of Major plant communities. General morphology of fungi, bryophytes, pteridophytes, gymnosperms and angiosperms and their adaptations.

UNIT – III

Animals kingdom: Classification of invertebrates and vertebrates. Characteristics and morphological adaptations of the invertebrates and vertebrates.

UNIT – IV

Study of cells using microscopes, structural organization of cells-nucleus, mitochondria, endoplasmic reticulum, golgi apparatus, lysosomes and peroxisomes etc. and their function. Cell division.

UNIT – V

Fundamental of genetics, mendelian inheritance, mutation. Theories of origin of life – organic evolution, speciation, Chromosomal manipulation.

Text Books:

1. Dutta, A.C(1995) “Botany for degree students. Oxford University Press, Chennai.
2. Reha Mathur, (1994) “Animal Behaviour”, Restrogi & Company, Merrut.
3. Ready, S.M.[2004]”Microbial Biotechnology”. Panima Book Publishing Company, New Delhi.

References

1. Ce Robertis, EDP and EMF De Roberties, [1996] “Cell and Molecular Biology”. B.I.Waverly Pvt. Ltd., New Delhi.
2. Prescott et al.,[1999] “microbiology”, MC Graw Hill, New Delhi
3. Stebbins, G.L.,[1979] “Process of organic evolution”. Prentice Hall of India, New Delhi.

Web Resources

1. http://www.netsci.org
2. http://www.animalword.net.in
3. http://www.biodive.org

C. OPERATING SYSTEM

UNIT – I

Introduction: Definition of Operating system – Functions of operating system – History of Operating system – Types of Operating system – System calls and system programs.

UNIT – II

Process Management : Definition of Process – Process states – process state transition – Operations on Process – Process control block - Inter process Communication – Deadlocks.

UNIT – III

Memory management: Single and Multiple partitioned allocation – Paging – Segmentation - Virtual Memory Management – Demand paging and page replacement algorithms.

UNIT – IV

Information Management : File concept – Access methods – Directory structure – Allocation methods- free space management- disk scheduling.

UNIT – V

Unix Operating System : Structure of Unix Operating System – Shell and Kernel of Unix O/S -Files system – simple commands: ls, cp, rm, who, mkdir, cd, rmdir, more, lp, wall, mail etc.

TEXT BOOK

Abraham Silberschatz and P.B. Galvin – Operating System Concepts – Addison Wesley Publication.

ELECTIVE SUBJECT

PAPER - 3

A. HUMAN RESOURCE MANAGEMENT

UNIT – I

Nature and scope of HRM – personnel Management and HRM – Functions of HRM – Functions of HR Manager – HRM as a profession – Indian perspective.

UNIT – II

Human Resource Planning – Recruitment – Selection – Methods of Selection – Use of Various tests – Interview techniques in selection – Placement.

UNIT – III

Induction – Training methods – Techniques – Identification of training needs – Training and Development.

UNIT – IV

Job satisfaction – Motivation (Maslow's and Two Factor Theory only) – Performance Appraisal – Methods – Compensation – Incentives – Monetary and Non-Monetary.

UNIT – V

Transfer – Promotion and Termination of Services – Career Development – Monitoring.

Reference Books:

1. Aswathappa – Human Resource and Personnel Management.
2. Memoria CB – Personnel Management.
3. Decenzo / Robbins – Human Resource Management.
4. Jayasankar - Human Resource Management.
5. C.B. Gupta - Human Resource Management.
6. L.M. Prasaad - Human Resource Management.

B. GEO – INFORMATICS

UNIT – I

Photogrammetry: Aerial Photographs – Basic terms, scales, relief displacements, Flight Planning, Stereoscopy, Fundamentals of Aerial photo – interpretation.

UNIT – II

Remote Sensing: Physics of remote sensing, Ideal remote sensing system, Remote sensing satellites and their data products, Sensors and orbital characteristics, Spectral reflectance curves, resolution and multi – concept, FCC.

UNIT – III

Digital Image Processing: Satellite Image – Characteristics and formats, Image Histogram, Introduction to Image rectification, Image Enhancement, Supervised Classification. Applications of remote sensing.

UNIT – IV

Geographic Information System [GIS] Basic concepts of geographic data, GIS and its components, Data acquisition, vector and raster data and structures for storage and efficient retrieval, GIS functions Spatial modeling, GIS Applications.

UNIT – V

Global Positioning system [GPS] introduction, Satellite navigation System, GPS-Space segments, Receivers, Static, Kinematic and Differential GPS.

TEXT BOOKS:

1. Gupta, R.P.[1991], "Remote sensing Geology", Springer – Verlag, Heldelbergy.
2. Lan Heyood, et al. [2000], "An introduction to geographic information systems", Addison Wesley Longman Ltd., England.

REFERENCES:

1. Aronoff, S.[1989], "Geographic Information Systems: A management perspective", DDL Publication, Ottawa.
2. Burrough, P.A., [2002], " Principles of Geographic information Systems for land resource assessment", Oxford Uni. Press, New York.
3. Lillsand, T.M. and Kiefer, P.W.,[1986], "Remote Sensing and Image Interpretation", John Wiley and Sons, New York.

WEB RESOURCES:

1. http://www.ncgia.ucsb.edu/
2. http://www.gisdevelopment.net/publications/index.htm
3. http://rst.gsfc.nasa.gov/Front/tofc.html
4. http://www.loc.gov/rr/scitech/mysteries/global.html
5. http:/scign.jpl.nasa.gov/learn/gpsl.html
6. http://opengis.org
7. http://www.freegis.org

SKILL BASED SUBJECT

PAPER - 4

BUSINESS ETHICS

UNIT – I

Role and importance of Business Ethics and Values in Business – Definition of Business Ethics Impact on Business Policy and Business Strategy – Role of CEO – Impact on the Business Culture.

UNIT – II

Types of Ethical issues – Bribes – Coercion – Deception – Theft – Unfair Discrimination.

UNIT – III

Ethics internal – Hiring – Employees – Promotions – Discipline – Wages – Job Description – Exploitation of employees – Ethics External – Consumers – Fair Prices – False Claim Advertisements.

UNIT – IV

Ethics External – Environment Protection – Natural – Physical – Society – Relationship of Values and Ethics – Indian Ethos – Impact on the performance.

UNIT – V

Vendors – Government – Social Audit.

Text Books:

1. Memoria & Menoria – Business Policy.
2. David J. Fritzsche – Business Ethics: A Global & Management Perspective – Tata McGraw-Hill.
3. Ramaswamy Namakumari – Strategic Planning – Corporate Strategy – MacMillan India Ltd.
4. Velasquez – Business Ethics – Prentice – Hall of India.
5. Dr.S.Shankaran – Business Ethics & Values.

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