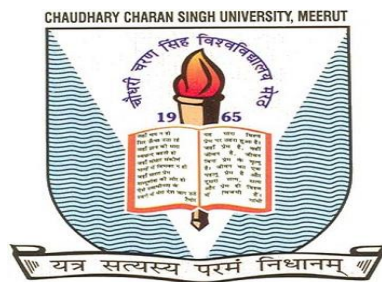


CH. CHARAN SINGH UNIVERSITY, MEERUT



Syllabus

For

First Year

(Master of Computer Applications)

(Effective from the Session: 2016-17)

Year – I Semester - II

Sl. No.	Subject Code	Subject Name	Periods			Evaluation Scheme					Credit
			L	T	P	Session Exams			ESE	Subject Total	
						CT	TA	Total			
1	MCA211	Computer Based Numerical & Statistical Techniques	3	1	0	20	10	30	70	100	04
2	MCA212	Data Structures	3	1	0	20	10	30	70	100	04
3	MCA213	Introduction to Automata Theory & Languages	3	1	0	20	10	30	70	100	04
4	MCA214	Innovation & Entrepreneurship	3	0	0	20	10	30	70	100	03
5	MCA215	Human Values & Professional Ethics									
6	MCA251	CBNST Lab	0	0	3	30	20	50	50	100	02
7	MCA252	Data Structure Lab	0	0	6	30	20	50	50	100	03
		Total	14	4	6					700	24

Professional Communication

MCA I Semester

Unit-1:

Fundamentals of Communication Technical Communication: features: Distinction between General and Technical communication; Language as a tool of communication; Levels of communication: Interpersonal, Organizational, Mass communications; The flow of Communication: Downward, Upward, Lateral of Horizontal (Peer group): Importance of technical communication; Barriers to Communication.

Unit-II:

Constituents of Technical Written Communication Words and Phrases: Word formation. Synonyms and Antonyms; Homophones; Select vocabulary of about 500-1000 New words; Correct Usage: all Parts of Speech; Modals; Concord; Articles; Infinitives; Requisites of Sentence Construction: Paragraph

Development: Techniques and Methods- Inductive, Deductive, Spatial, Linear, Chronological etc; The

Art of Condensation-various steps.

Unit-III

Business Communication Principles, Sales & Credit letters; Claim and Adjustment Letters; Job

application and Resumes. Reports: Types; Significance; Structure, Style & Writing of Reports. Technical Proposal; Parts; Types; Writing of Proposal; Significance, Negotiation & Business Presentation skills

Unit-IV

Presentation Strategies and Listening Skills. Defining Purpose; Audience & Local; Organizing Contents; Preparing Outline; Audio-visual Aids; Nuances of Delivery; Body Language; Dimensions of Speech: Syllable; Accent; Pitch; Rhythm; Intonation; Paralinguistic features of voice; Listening Skills: Active Listening, Passive Listening. methods for improving Listening Skills

Unit-V

Value-Based Text Readings Following essays form the suggested text book with emphasis on Mechanics of writing.

- (i) Humanistic and Scientific Approaches to Human Activity by Moody E. Prior
- (ii) The Language of Literature and Science by A. Huxley
- (iii) Man and Nature by J. Bronowski
- (iv) The Social Function of Literature by Ian Watt
- (v) Science and Survival by Barry Commoner
- (vi) The Mother of the Sciences by A.J. Bahm
- (vii) The Effect of Scientific Temper on Man by Bertrand Russell.

Text Books

1. Improve Your Writing ed. V.N. Arora and Laxmi Chandra, Oxford Univ. Press, 2001, New Delhi
2. Technical Communication: A Practical Approach: Madhu Rani and Seema Verma- Acme Learning
3. Technical Communication- Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press

Reference Books

1. Communication Skills for Engineers and Scientists, Sangeeta Sharma et.al. PHI Learning Pvt.Ltd,2011, New Delhi
2. Business Correspondence and Report Writing by Prof. R.C.Sharma & Krishna Mohan, Tata McGraw Hill & Co.Ltd.,2001, New Delhi
3. Word Power Made Easy by Norman Lewis, W.R.Goyal Pub. &Distributors, 2009,Delhi.
4. Developing Communication Skills by Krishna Mohan, Mecra Bannerji- Macmillan India Ltd. 1990, Delhi
5. Manual of Practical Communication by L.U.B.Pandey: A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2013, Delhi
6. English Grammar and Usage by R.P.Sinha, Oxford University Press, 2005, New Delhi.
7. Spoken English- A manual of Speech and Phonetics by R.K.Bansal & J.B.Harrison, Orient Blackswan, 2013, New Delhi
8. Business English by Ken Taylor, Orient Blackswan, 2011, New Delhi

MCA 1st Semester

Effective from 2016-17

COMPUTER CONCEPTS AND PRINCIPLES OF PROGRAMMING

UNIT 1:

08 Hours

Introduction to Computers:

Generations of Computer, Classification of Computers on various Parameters viz. Size, Purpose, Number of Users, Software, Application and System Software, Computer Hardware, Storage Devices, Memory Hierarchy, Magnetic Tape, Flash Memory, Cache and its Levels, SSD.

Number System: Binary, Octal and Hexadecimal Number Systems, Inter-Conversions in Various Numbers Systems, Binary Arithmetic.

UNIT 1:

06 Hours

Introduction to Operating System, Its Various Functions, Popular Operating Systems— Android, Windows, Difference between Linux and Unix, iOS, Google Chrome, Modern Computing Models: Cloud Computing Model and Its Benefits, Grid Computing, Green Computing, Internet of Things (IoT), Big Data Analytics, Modern Applications of IT

UNIT 1:

10 Hours

A Short History of Programming Languages, Development of Early Languages, Evolution of Software Architectures, Role of Programming Languages, Attributes of a Good Language? Approaches to Problem Solving, Concept of Algorithm and Flow Charts, Machine Language, Assembly Language and High Level Language, Concept of Assembler, Compiler, Loader and Linker.

Language Standardization and Internationalization Translators and Virtual Architectures, Binding Times, Syntactic Elements of a Programming Language, Program-Sub Program Structure, Stages in Translation, Analysis of Source Program, Synthesis of Object Program, Introduction to Python Programming.

UNIT 1:

08 Hours

Data Objects, Variables and Constants, Data Types, Declarations, Type Checking and Type Conversion, Assignment and Initialization, Condition Checking, Looping, Structured Data Types, Arrays, Records, Lists, Executable Objects, Methods

UNIT 1:

08 Hours

Naming and Referencing Environments, Recursive Sub Programs, Static and Dynamic Scope, Encapsulation, Abstraction, Abstract Data Types, Classes, Inheritance, Objects and Message Passing,

Text Books:

1. Programming Languages: Design and Implementation by Terrance W. Pratt, Marvin V. Zalkowitz, T. V. Gopal, Fourth Edition, Pearson
2. Fundamentals of Computers, V. Raja Raman and Neeharika Adabala, Sixth Edition, PHI
3. Concepts, Techniques and Models of Computer Programming by Peter Van Roy and Seif Haridi, MIT Press
4. Computer Concepts: Introductory by June Jamrich Parsons & Dam Oja Eighth Edition Cengage Learning

Reference:

1. Programming Languages: Design and Implementation, Terrence W. Pratt, Prentice Hall Publishers
2. Computer Science- A Structured Programming Approach Using C, by Behrouz A. Forouzan, Richard F. Gilberg, Thomson, Third Edition [India Edition], 2007.
3. Object- Oriented Programming with C++ by E. Balagurusamy

MCA I Semester

ACCOUNTING AND FINANCIAL MANAGEMENT

Unit I: (6 Hrs)

Overview: Accounting concepts, conventions and principles; Accounting Equation, International Accounting principles and standards; Matching of Indian Accounting Standards with International Accounting Standards

Unit II: (12 Sessions)

Mechanics of Accounting: Double entry system of accounting, journalizing of transactions; preparation of final accounts, Trading Account, Manufacturing Accounts, Profit & Loss Account, Profit & Loss Appropriation account and Balance Sheet, Policies related with depreciation, inventory and intangible assets like copyright, trademark, patents and goodwill.

Unit III (12 Sessions)

Analysis of financial statement: Ratio Analysis- solvency ratios, profitability ratios, activity ratios, liquidity ratios, market capitalization ratios ; Common Size Statement ; Comparative Balance Sheet and Trend Analysis of manufacturing, service & banking organizations.

Unit IV (10 Sessions)

Funds Flow Statement: Meaning, Concept of Gross and Net Working Capital, Preparation of Schedule of Changes in Working Capital, Preparation of Funds Flow Statement and its analysis ; Cash Flow Statement: Various cash and non-cash transactions, flow of cash, preparation of Cash Flow Statement and its analysis.

Suggested Readings

- 1) Narayanswami - Financial Accounting: A Managerial Perspective (PHI, 2nd Edition)
- 2) Mukherjee - Financial Accounting for Management (TMH, 1st Edition)
- 3) Ramchandran&Kakani - Financial Accounting for Management (TMH, 2nd Edition)
- 4) Ghosh T P - Accounting and Finance for Managers (Taxman, 1st Edition).
- 5) Maheshwari S.N &Maheshwari S K – An Introduction to Accountancy (Vikas, 9th Edition)
- 6) Ashish K. Bhattacharya- Essentials of Financial Accounting (PHI, New Delhi)
- 7) Ghosh T.P- Financial Accounting for Managers (Taxman, 3rd Edition)
- 8) Maheshwari S.N &Maheshwari S K – A text book of Accounting for Management (Vikas, 1st Edition)
- 9) Gupta Ambrish - Financial Accounting for Management (Pearson Education, 2nd Edition)
- 10) Chowdhary Anil - Fundamentals of Accounting and Financial Analysis (Pearson Education, 1st Edition).

DISCRETE MATHEMATICS

MCA I Semester

Unit-I: (10 Hrs)

Set Theory: Introduction, Size of sets and cardinals, Venn diagrams, Combination of sets, Multisets, Ordered pairs and Set identities.

Relations & Functions: Relations - Definition, Operations on relations, Composite relations, Properties of relations, Equality of relations, Partial order relation. Functions - Definition, Classification of functions, Operations on functions, Recursively defined functions.

Notion of Proof: Introduction, Mathematical Induction, Strong Induction and Induction with Nonzero base cases.

Unit-II: (08 Hrs)

Lattices: Introduction, Partial order sets, Combination of partial order sets, Hasse diagram, Introduction of lattices, Properties of lattices – Bounded, Complemented, Modular and Complete lattice.

Unit-III: (08 Hrs)

Boolean Algebra: Introduction, Axioms and Theorems of Boolean algebra, Boolean functions. Simplification of Boolean Functions, Karnaugh maps, Logic gates, Digital circuits and Boolean algebra.

Unit-IV: (08 Hrs)

Propositional & Predicate Logic: Propositions, Truth tables, Tautology, Contradiction, Algebra of propositions, Theory of Inference and Natural Deduction. Theory of predicates, First order predicate, Predicate formulas, quantifiers, Inference theory of predicate logic.

Unit-V: (06 Hrs)

Recurrence Relations: Introduction, Growth of functions, Recurrences from algorithms, Methods of solving recurrences.

Combinatorics: Introduction, Counting Techniques, Pigeonhole Principle, Pólya's Counting Theory.

Text Books:

1. Discrete Mathematics and Its Applications, Kenneth H. Rosen, McGraw-Hill, 2006.
2. Discrete Mathematical Structures, B. Kolman, R. C. Busby, and S. C. Ross, Prentice Hall, 2004.
3. Discrete and Combinatorial Mathematics, R.P. Grimaldi, Addison Wesley, 2004.
4. Discrete Mathematical Structures, Y N Singh, Wiley-India, First Edition, 2010.

Computer Organization

MCA I Semester

Unit-1: Digital Electronics (08 Hrs)

Data Representation in Computer Systems

Introduction, Positional Numbering Systems, Converting Between Bases, Signed Integer

Representation, Floating-Point Representation, Character Codes

Arithmetic

Overview, Fixed Point Addition and Subtraction, Fixed Point Multiplication and Division, Floating Point Arithmetic

Boolean Algebra and Digital Logic

Introduction, Boolean Algebra, Boolean Expressions, Boolean Identities, K-Maps & Map minimization, Logic Gates, Digital Components, Combinational Circuits, Sequential Circuits

Unit-2: Memory, Register and Register transfer (08 Hrs)

Register Transfer Language, Bus and Memory Transfers, Bus Architecture, Bus Arbitration,

Arithmetic Logic, Shift Micro-operation, Arithmetic Logic Shift Unit, Design of Fast address, Arithmetic Algorithms (addition, subtraction, Booth Multiplication), IEEE standard for Floating point numbers.

Memory Hierarchy, Main Memory (RAM and ROM Chips), organization of 2D and $2^{1/2}$ D, 2

Auxiliary memory, Cache memory, Virtual Memory, Memory management hardware

Unit 3: Control Design (08 Hrs)

Hardwired & Micro Programmed (Control Unit): Fundamental Concepts (Register Transfers, Performing of arithmetic or logical operations, Fetching a word from memory, storing a word in memory), Execution of a complete instruction, Multiple-Bus organization, Hardwired Control, Micro programmed control (Microinstruction, Microprogram sequencing, Wide-Branch addressing, Microinstruction with Next-address field, Prefetching Microinstruction).

Unit 4: (08 Hrs)

Processor Design: Processor Organization: General register organization, Stack organization, Addressing mode, Instruction format, Data transfer & manipulations, Program Control, Reduced Instruction Set Computer.

Input-Output Organization: I/O Interface, Modes of transfer, Interrupts & Interrupt handling, Programmed I/O, Direct Memory access, Input-Output processor, Serial Communication.

Unit 5: (8 Hrs)

RISC & CICS Architecture, Basic MIPS Implementation, Pipelining, Instruction-level Parallelism, Parallel Processing Challenges, Flynn's Classification, Hardware Multi-threading, Multicore processing.

Text-Books(TB)

1. Logic and Digital Design, *Morris mano and Kimicharels 4th Edition, Prentice Hall.*
2. Computer System Architecture, M. Mano(PHI)
3. Computer Organization, Vravice, Zaky&Hamacher (TMH Publication)

Reference Books (RB)

1. Structured Computer Organization, Tannenbaum(PHI)
2. Computer Organization, Stallings(PHI)
3. Computer Organization, John P.Hayes (McGraw Hill)

MCA – II Semester

Computer Based Numerical & Statistical Techniques

1. **Unit-I**
2. **Floating point Arithmetic:** Representation of floating point numbers, Operations, Normalization, Pitfalls of floating point representation, Errors in numerical computation
3. **Iterative Methods:** Zeros of a single transcendental equation and zeros of polynomial using Bisection Method, Iteration Method, Regula-Falsi method, Newton Raphson method, Secant method, Rate of convergence of iterative methods.
- 4.
5. **Unit-II**
6. **Simultaneous Linear Equations:** Solutions of system of Linear equations, Gauss Elimination direct method and pivoting, Ill Conditioned system of equations, Refinement of solution. Gauss Seidel iterative method, Rate of Convergence **Interpolation and approximation:** Finite Differences, Difference tables Polynomial Interpolation: Newton's forward and backward formula
7. Central Difference Formulae: Gauss forward and backward formula, Stirling's, Bessel's
8. **Interpolation with unequal intervals:** Lagrange's Interpolation, Newton Divided difference formula
- 9.
10. **Unit-III**
11. **Numerical Differentiation and Integration:** Introduction, Numerical Differentiation, Numerical Integration, Trapezoidal rule, Simpson's rules, Boole's Rule
12. **Solution of differential equations:** Picard's Method, Euler's Method, Taylor's Method, Runge-Kutta methods, Predictor-corrector method, Automatic error monitoring, stability of solution.
- 13.
14. **Unit-IV**
15. **Curve fitting, Cubic Spline and Approximation:** Method of least squares, fitting of straight lines, polynomials, exponential curves etc
16. **Frequency Chart:** Different frequency chart like Histogram, Frequency curve, Pi-chart.
17. **Regression analysis:** Linear and Non-linear regression, Multiple regression
- 18.
19. **Unit-V**
20. Time series and forecasting: Moving averages, smoothening of curves, forecasting models and methods.

21. **Testing of Hypothesis:** Test of significance, Chi-square test, t-test, F-Test
Application to medicine, agriculture etc.

22.

23. References:

24. 1.Rajaraman V., "Computer Oriented Numerical Methods", PHI

25. 2.Gerald& Wheatley, "Applied Numerical Analyses", AW

26. 3.Jain, Iyengar and Jain, "Numerical Methods for Scientific and Engineering Computations", New Age Int.

27. 4.Grewal B. S., "Numerical methods in Engineering and Science", Khanna Publishers, Delhi

28. 5.T. Veerarajan, T Ramachandran, "Theory and Problems in Numerical Methods", TMH

29. 6.PradipNiyogi, "Numerical Analysis and Algorithms", TMH

30. 7.FrancisScheld, "Numerical Analysis", TMH

31. 9. Gupta S. P., "Statistical Methods", Sultan and Sons

MCA II Semester

Subject: Data Structures

1. **Unit –I:** Introduction:
2. Basic Terminology, Elementary Data Organization, Data Structure operations, Algorithm Complexity and Time-Space trade-off.
3. **Arrays:** Array Definition, Representation and Analysis, Single and Multidimensional Arrays, address calculation, application of arrays, Ordered List, Sparse Matrices and Vectors.
4. **Stacks:** Array Representation and Implementation of stack, Operations on Stacks: Push & Pop, Array Representation of Stack, Linked Representation of Stack, Operations Associated with Stacks,
5. **Application of stack:** Conversion of Infix to Prefix and Postfix Expressions, Evaluation of postfix expression using stack. Recursion: Recursive definition and processes, recursion in C, example of recursion, Tower of Hanoi Problem, simulating recursion.
- 6.
7. **Unit - II**
8. **Queues:** Array and linked representation and implementation of queues, Operations on Queue: Create, Add, Delete, Full and Empty. Circular queue, Deque, and Priority Queue.
9. **Linked list:** Representation and Implementation of Singly Linked Lists, Two-way Header List, Traversing and Searching of Linked List, Overflow and Underflow, Insertion and deletion to/from Linked Lists algorithm (Beginning, end and middle), Doubly linked list, Linked List in Array, Polynomial representation and addition, Generalized linked list, Garbage Collection and Compaction.
- 10.
11. **Unit - III**
12. **Trees:** Basic terminology, Binary Trees, Binary Tree Representation, Algebraic Expressions, Complete Binary Tree. Extended Binary Trees, Array and Linked Representation of Binary trees, Traversing Binary trees, Threaded Binary trees, Traversing Threaded Binary trees,
- 13.
14. **Binary Search Trees:** Binary Search Tree (BST), Insertion and Deletion in BST, Complexity of Search Algorithm, Path Length, AVL Trees.
- 15..
16. **Unit -IV**
17. **Searching :** Sequential search, binary search, comparison and analysis
- 18.
19. **Sorting:** Insertion Sort, Bubble Sorting, Quick Sort, Two Way Merge Sort, Heap Sort, Sorting on Different Keys, Practical consideration for Internal Sorting

20..

21. Unit - V

22. Graphs:

23. Terminology & Representations, Graphs & Multi-graphs, Directed Graphs, Sequential Representations of Graphs, Adjacency Matrices, Traversal, Connected Component and Spanning Trees, Minimum Cost Spanning Trees.

24. **File Structures:** Physical Storage Media File Organization, Organization of records into Blocks, Sequential Files, Indexing and Hashing, Primary indices, Secondary indices, B+ Tree index Files, B Tree index Files, Indexing and Hashing Techniques and their Comparisons.

25.

26. References

27.

28. Text Books

29. 1. Y. Langsam, M. Augenstein and A. Tannenbaum, Data Structures using C and C++, Pearson Education Asia, 2nd Edition, 2002.

30. 2. Ellis Horowitz, S. Sahni, D. Mehta Fundamentals of Data Structures in C++, Galgotia Book Source, New Delhi.

31.

32. Reference Books

33. 1. S. Lipschutz, Data Structures Mc-Graw Hill International Editions

34. 2. Jean-Paul Tremblay, Paul. G. Soresan, An introduction to data structures with Applications, Tata Mc-Graw Hill International Editions

35. 3. A. Michael Berman, Data structures via C++, Oxford University Press

36. 4. M. Weiss, Data Structures and Algorithm Analysis in C++, Pearson Education

37.

Introduction to Automata Theory & Formal Languages

MCA II Semester

1. Unit-I:

Basic concepts of Automata Theory: Alphabets, Strings and Languages, Deterministic Finite Automata (DFA) and Nondeterministic Finite Automata (NFA) – Definition, Representation using

Transition Tables and State Diagrams, Language of DFA and NFA. NFA with ϵ -transitions, Language of NFA with ϵ -transitions, Equivalence of NFA and DFA

38.

2. Unit – II:

3. **Regular Expressions and Languages:** Introduction, Definition of regular expression, Kleen's Theorem, Equivalence of regular expression and Finite Automata, Pumping Lemma for regular Languages, Closure properties of Regular Languages, Decision properties of Regular Languages,

Finite Automata with Output: Moore and Mealy Machine, Equivalence of Moore and Mealy Machines.

4.

5. Unit – III:

6. **Non-Regular Grammars:** Definition of Grammar, Classification of Grammars, Chomsky's Hierarchy. Context Free Grammars (CFG) and Context Free Languages (CFL) - Definition, Examples, Derivation trees, Ambiguous Grammars, Simplification of Grammars, Normal forms of CFGs: CNF and GNF, Closure properties of CFLs, Decision Properties of CFLs, Pumping lemma for CFLs. Push Down Automata (PDA): Definition and Description, Language of PDA and its applications.

7.

8. Unit – IV:

9. **Turing Machines:** Introduction, Basic Features of a Turing Machine, Language of a Turing

Machine, Variants of Turing Machine: Multitapes, Nondeterministic Turing Machine, Universal Turing Machine. Turing Machine as Computer of Integer functions, Halting problem of Turing Machine, Church-Turing Thesis

10.

11. Unit – V:

12. **Undecidability:** Introduction, Undecidable problems about Turing Machines, Rice's Theorem,

Post's Correspondence problem (PCP) and Modified PCP. Tractable and Intractable Problems: P and NP, NPComplete Problems, Introduction to recursive function theory

13.

14.

15. Text Books:

16. 1. Introduction to Automata theory, Languages and Computation, J.E.Hopcraft, R.Motwani, and Ullman. 2nd edition, Pearson Education Asia

17. 2. Introduction to languages and the theory of computation, J Martin, 3rd Edition, Tata McGraw Hill

18. 3. Elements and Theory of Computation, C Papadimitrou and C. L. Lewis, PHI

19. 4. Mathematical Foundation of Computer Science, Y.N.Singh, New Age International

Subject: Innovation and Entrepreneurship

MCA II Semester

What is innovation and entrepreneurship? Innovation Types and sources, recognizing opportunities, acting on the opportunities, innovation strategies and management, strengthening the national innovation system, fostering innovation and entrepreneurship

Unit II: Entrepreneurship

(8 Hrs)

Meaning, Definition and concept of Enterprise, Entrepreneurship and Entrepreneurship Development, Evolution of Entrepreneurship, Theories of Entrepreneurship, Characteristics and Skills of Entrepreneurship, Entrepreneurship and Economic Development; Classification and Types of Entrepreneurs; Entrepreneurial Competencies; Factor Affecting Entrepreneurial Growth – Economic, Non-Economic Factors; Concepts of Intrapreneurship, Entrepreneur v/s Intrapreneur, Traits/Qualities of an Entrepreneur; Manager Vs. Entrepreneur, Problems of Entrepreneurship.

Unit III: Opportunity / Identification and Product Selection

(8 Hrs)

Meaning and concept of Entrepreneurial Competency, Developing Entrepreneurial Competencies, Entrepreneurial Culture, Entrepreneurial Mobility, Factors affecting Entrepreneurial mobility, Types of Entrepreneurial mobility. Entrepreneurial Opportunity Search and Identification; Criteria to Select a Product; Conducting Feasibility Studies; Project Finalization; Sources of Information

Unit IV:

(8 Hrs)

Role of Government in promoting Entrepreneurship, MSME policy in India, **Agencies for Policy Formulation and Implementation:** District Industries Centers (DIC), Small Industries Service Institute (SISI), Entrepreneurship Development Institute of India (EDII), National Institute of Entrepreneurship & Small Business Development (NIESBUD), National Entrepreneurship Development Board (NEDB), **Financial Support System:** Forms of Financial support, Long term and Short term financial support, Sources of Financial support, Development Financial Institutions, Investment Institutions

Unit V:

(8 Hrs)

Women Entrepreneurship: Meaning, Characteristic features, Problems of Women Entrepreneurship in India, Developing Women Entrepreneurship in India, Concept of Social Enterprise and Social Entrepreneurship, Social Entrepreneurs, Sustainability Issues in Social Entrepreneurship, Rural Entrepreneurship, Family Business Entrepreneurship **Project Management:** Concept, Features, Classification of projects, Issues in Project Management, Project Identification, Project Formulation, Project Design and Network Analysis, Project Evaluation, Project Appraisal, Project Report Preparation, Specimen of a Project Report

Case Studies - At least 4 (four) during this Course

Suggested Readings:

1. Lall & Sahai: Entrepreneurship (Excel Books)
2. Couger, C- Creativity and Innovation (IPP, 1999)
3. Kakkar D N - Entrepreneurship Development (Wiley Dreamtech)
4. A.K.Rai – Entrepreneurship Development, (Vikas Publishing)
5. Sehgal & Chaturvedi-Entrepreneurship Development (UDH Publishing)
6. R.V. Badi & N.V. Badi - Entrepreneurship (Vrinda Publications)
7. Holt - Entrepreneurship : New Venture Creation (Prentice-Hall).
8. Barringer M J - Entrepreneurship (Prentice-Hall)
9. Nina Jacob, - Creativity in Organisations (Wheeler, 1998) Desai, Vasant (2003). Small-Scale Industries and Entrepreneurship. Himalaya Publishing House, Delhi.

10. Kaulgud, Aruna (2003). Entrepreneurship Management. Vikas Publishing House, Delhi.38
11. Cynthia, L. Greene (2004). Entrepreneurship Ideas in Action. Thomson Asia Pvt. Ltd., Singapore.
12. Chandra, Ravi (2003). Entrepreneurial Success: A Psychological Study. Sterling Publication Pvt.Ltd., New Delhi.
13. Balaraju, Theduri (2004). Entrepreneurship Development: An Analytical Study. Akansha Publishing House, Uttam Nagar, New Delhi.
14. David, Otes (2004). A Guide to Entrepreneurship. Jaico Books Publishing House, Delhi.
Taneja (2004). Entrepreneurship. Galgotia Publishers

Second Semester

Human Values & Professional Ethics

Unit-I Course Introduction - Need, Basic Guidelines, Content and Process for Value Education(6)

1. Understanding the need, basic guidelines, content and process for Value Education.
2. Self Exploration-what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration
3. Continuous Happiness and Prosperity-A look at basic Human Aspirations
4. Right understanding, Relationship and Physical Facilities-the basic requirements for fulfillment of aspirations of every human being with their correct priority
5. Understanding Happiness and Prosperity correctly-A critical appraisal of the current scenario
6. Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

Unit-II Understanding Harmony in the Human Being-Harmony in Myself (6)

7. Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
8. Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha
9. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)
10. Understanding the characteristics and activities of 'I' and harmony in 'I'
11. Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail
12. Programs to ensure Sanyam and Swasthya -Practice Exercised and Case Studies will be taken up in Practice Sessions.

Unit-III Understanding Harmony in the Family and Society -Harmony in Human-Human Relationship (6)

13. Understanding harmony in the Family- the basic unit of human interaction
14. Understanding values in human - human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti;
Trust (Vishwas) and Respect (Samman) as the foundational values of relationship
15. Understanding the meaning of Vishwas; Difference between intention and competence.
16. Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship
17. Understanding the harmony in the society (society being an extension of family):
Samadhan, samridhi, Abhay, Sah-astitva as comprehensive Human Goals
18. Visualizing a universal harmonies order in society-Undivided Society (Akhand Samaj),
Universal Order (Sarvabhaum Vyawastha) - from family to world family.
-Practice Exercise and Case Studies will be taken up in Practice Sessions.

Unit-IV Understanding Harmony in the Nature and Existence - Whole existence as Co-existence(5)

19. Understanding the harmony in the Nature
20. Interconnectedness and mutual fulfillment among the four orders of nature-recyclability and self-regulations in nature
21. Understanding existence as Co-existence (Sah-astitva) of mutually interacting unites in all-pervasive space.
22. Holistic perception of harmony at all levels of existence
-Practice Exercise and Case Studies will be taken up in Practice Sessions.

Unit-V Implications of the above Holistic Understanding of Harmony on Professional Ethics (5)

23. Natural acceptance of human values
24. Definitiveness of Ethical Human Conduct
25. Basis of Humanistic Education, Humanistic Constitution and Humanistic Universal Order
26. Competence in professional ethics;
 - a. Ability to utilize the professional competence for augmenting universal human order.
 - b. Ability to identify the scope and characteristics of people friendly eco-friendly production systems
 - c. Ability to identify and develop appropriate technologies and management patterns for above production systems.
27. Case studies of typical holistic technologies, management models and production systems
28. Strategy for transition from the present state to universal Human Order;
 - a. At the level of individual: as socially and ecologically responsible engineers, technologies and managers.
 - b. At the level of society: as mutually enriching institutions and organizations.

