University of Pune

Revised Structure & Syllabi for Three Year Degree Programme of
Bachelor of Computer Applications (B.C.A.)

1. The title of the programme will be Bachelor of Computer Application (B.C.A.) under Commerce Faculty .
    The revised program will be introduced for -
    a) F.Y.B.C.A. from the academic year 2008-09
    b) S.Y.B.C.A. from the academic year 2009-10
    c) T.Y.B.C.A. from the academic year 2010-11

2. Objectives : The objectives of the Programme shall be to provide sound academic base from which an advanced career in Computer Application can be developed. Conceptual grounding in computer usage as well as its practical business application will be provided.

3. Eligibility for admission : In order to be eligible for admission to Bachelor of Computer Applications a candidate must have passed
    a. HSC (10+2) from any stream with English as passing Subject with minimum 45% marks in aggregate.
    b. Two years Diploma in Pharmacy Course of Board of Technical Education, conducted by Government   of Maharashtra or its equivalent.
    c. Three Year Diploma Course (after S.S.C. i.e. 10th Standard), of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
    d. MCVC
    e. Every eligible candidate has to pass Common Entrance Test to be conducted by the respective Institute/College.

4. Duration : The duration of the B.C.A. Degree Program shall be three years divided into six semesters.

5. The scheme of Examinations :
    The BCA Examination will be of 3600 marks as given Below

    I) a) F.Y.B.C.A. (Sem I + Sem II) : 1200 marks
        b) S.Y.B.C.A. (Sem III + Sem IV) : 1200 marks
        c) T.Y.B.C.A. (Sem V + Sem VI) : 1200 marks

    II) For Theory Paper There Will Be 80:20 Pattern
        80 Marks : University Exam
        20 Marks : Internal Exam
        For Practical And Project Examination
        Sem I to VI : 100 marks
        Sem I , III , V : External Assessment
        Sem II , IV ,VI : External Assessment

6. The Standard of Passing and Award of Class

   In order to pass in the examination the candidate has to obtain 40 marks out of 100. (Min 32 marks must be obtained in University Examination .

   The class will be awarded on the basis of aggregate marks obtained by the candidate for all three years examinations .

   The award of class will be as follows :

Aggregate Percentage of Marks		Class
(i) Aggregate 70% and above	....	First Class with Distinction.
(ii) Aggregate 60% and above but less than 70%	....	First Class
(iii) Aggregate 55% and more but less than 60%	....	Higher Second Class
(iv) Aggregate 50% and more but less than 55%.	....	Second Class.
(v) Aggregate 40% and more but less than 50%	....	Pass Class.
(vi) Below 40%	....	Fail.

7. RULES OF A.T.K.T.

   a) A student shall be allowed to keep term for the Second Year, if he/she has a backlog of not more than three theory & one practical or four theory heads of total number of subjects of the First year examination, which consist of First & Second Semester.

   b) A student shall be allowed to keep term for the Third year, if he/she has no backlog of first Year & if he/she has a backlog of not more than three theory & one practical or four theory heads of total number of subject of the Second Year examination which consist of Third & Fourth Semester.

8. The Medium of Instruction and Examination (Written and Viva) shall be English.

9. The Semester wise Structure of the programme shall be as follows :
Semester – I

Course No.	Newly Proposed Subject
101	Business Communication
102	Principles of Management
103	Programming Principles and Algorithms
104	**Computer Fundamental and Office Automation**
105	Business Accounting
106	Computer Laboratory and Practical Work (OA+PPA)

Semester – II

Course No.	Newly Proposed Subject
201	Organizational Behavior
202	Elements of Statistics
203	**'C' Programming**
204	**File Structure and Database Concepts**
205	Cost Accounting
206	Computer Laboratory and Practical Work (C.P + DBMS)

Semester – III

Course No.	Newly Proposed Subject
301	Numerical Methods
302	**Data Structure using C**
303	**Software Engineering**
304	Management Accounting
305	**RDBMS**
306	Computer Laboratory and Practical Work (D.S + RDBMS)

Semester – IV

Course No.	Newly Proposed Subject
401	**Networking**
402	Visual Basic
403	**Inventory Management (SAD)**
404	Human Resource Management
405	**Object Oriented Programming using C++**
406	Computer Laboratory and Practical Work (VB + C++)

Semester – V

Course No.	Newly Proposed Subject
501	**.NET Frameworks**
502	Internet Programming and Cyber Law
503	Principals of Marketing
504	**Core Java**
505	Project work (VB)
506	Computer Laboratory and Practical Work (.NET + Core Java)

Semester – VI

Course No.	Newly Proposed Subject
601	**E-Commerce**
602	**Multimedia Systems**
603	Introduction to SysPro And Operating Systems
604	**Advance Java**
605	Project Work (Banking & Finance , Cost Analysis , Financial Analysis ,Payroll , EDP ,ERP etc.)
606	Computer Laboratory and Practical Work (Multimedia + Advanced Java)

Business Communication

Course Code: 101

Objectives:
1) To understand the concept, process and importance of communication.
2) To gain knowledge of media of communication.
3) To develop skills of effective communication - both written and oral.
4) To make students familiar with information technology.

No. of Lectures

Unit 1: Introduction to Communication

Meaning and Definition - Process - Functions - Objectives - Importance - Essentials of good communication - Communication barriers - Overcoming communication barriers

12

Unit 2: Types of Communication

Written - Oral - Face-to-face - Silence - Merits and limitations of each type

12

Unit 3: Business Letters

Need and functions of business letters - Planning & layout of business letter - Kinds of business letters - Essentials of effective correspondence -

05

Unit 4: Drafting of business letters

Enquiries and replies - Placing and fulfilling orders - Complaints and follow-up - Sales letters - Circular letters - Application for employment and resume

12

Unit 5: Oral Communication

Meaning, nature and scope - Principles of effective oral communication - Techniques of effective speech - Media of oral communication (Face-to-face conversation - Teleconferences - Press Conference - Demonstration - Radio Recording - Dictaphone - Meetings - Rumour - Demonstration and Dramatisation - Public address system - Grapevine - Group Discussion - Oral report - Closed circuit TV). The art of listening - Principles of good listening.

08

Unit 6: Information Technology for Communication

Word Processor - Telex - Facsimile(Fax) - E-mail - Voice mail - Internet – Multimedia - Teleconferencing - Mobile Phone Conversation - Video Conferencing - SMS - Telephone Answering Machine - Advantages and limitations of these types.

06

Topics Prescribed for workshop/skill lab

12

i) Group Discussion
ii) Mock Interview
iii) Decision Making in a Group
iv) Written Communication

Recommended Books:

1) *Business Communication - K. K. Sinha - Galgotia Publishing Company, New Delhi.*
2) *Media and Communication Management - C. S. Rayudu - Himalaya Publishing House, Bombay.*
3) *Essentials of Business Communication - Rajendra Pal and J. S. Korlhalli - Sultan Chand & Sons, New Delhi.*
4) *Business Communication (Principles, Methods and Techniques) Nirmal Singh - Deep & Deep Publications Pvt. Ltd., New Delhi.*
5) *Business Communication - Dr. S.V. Kadvekar, Prin. Dr. C. N. Rawal and Prof. Ravindra Kothavade - Diamond Publications, Pune.*
6) *Business Correspondence and Report Writing - R. C. Sharma, Krishna Mohan - Tata McGraw-Hill Publishing Company Limited, New Delhi.*
7) *Communicate to Win - Richard Denny - Kogan Page India Private Limited, New Delhi.*
8) *Modern Business Correspondence - L. Gartside - The English Language Book Society and Macdonald and Evans Ltd.*
9) *Business Communication - M. Balasubrahmanyan - Vani Educational Books.*
10) *Creating a Successful CV - Siman Howard - Dorling Kindersley.*

Principles of Management

Objective - To provide a basis of understanding to the students with reference to working of business organization through the process of management.

On completion of the syllabi the student will understand the basic principles of management - will acquaint himself with management process, functions and principles. Student will also get the idea about new developments in management.

No. of Lectures

1) **Nature of Management:**   **(8)**
Meaning, Definition, it's nature purpose, importance & Functions,
Management as Art, Science & Profession- Management as social System Concepts of management-Administration-Organization

2) **Evolution of Management Thought**:   (8)
Contribution of F.W.Taylor, Henri Fayol ,Elton Mayo , Chester Barhard
& Peter Drucker to the management thought. Various approaches to
management (i.e. Schools of management thought)Indian Management Thought

3) **Functions of Management: Part-I**   **(8)**
Planning - Meaning - Need & Importance, types levels - advantages
& limitations.
Forecasting - Need & Techniques
Decision making - Types - Process of rational decision making &
techniques of decision making
Organizing - Elements of organizing & processes:
Types of organizations, Delegation of authority - Need, difficulties in
delegation - Decentralization
Staffing - Meaning & Importance
Direction - Nature - Principles
Communication - Types & Importance
Motivation - Importance - theories
Leadership - Meaning - styles, qualities & functions of leaders

4) **Functions of Management: Part-II**   **(8)**

Controlling - Need, Nature, importance, Process & Techniques
Coordination - Need – Importance

5) **Strategic Management**   **(8)**
Definition, Classes of Decisions, Levels of Decision, Strategy, Role of different Strategist,
Relevance of Strategic Management and its Benefits, Strategic Management in India

6) Recent Trends in Management: (8)
  Social Responsibility of Management – environment friendly management
  Management of Change
  Management of Crisis
  Total Quality Management
  Stress Management
  International Management

Books Recommended:-
  1.. Essential of Management - Horold Koontz and Iteinz Weibrich -
                                McGrawhills International

  2. Management Theory & Practice - J.N.Chandan

  3. Essential of Business Administration - K.Aswathapa
                    Himalaya Publishing House

  4. Principles & practice of management - Dr. L.M.Parasad, Sultan Chand
                      & Sons - New Delhi

  5. Business Organization & Management - Dr. Y.K. Bhushan

  6. Management: Concept and Strategies By J. S. Chandan, Vikas Publishing

  7. Principles of Management, By Tripathi, Reddy Tata McGraw Hill
  8. Business organization and Management by Talloo by Tata McGraw Hill
  1. Business Environment and Policy – A book on Strategic Management/Corporate Planning By
      Francis Cherunilam Himalaya Publishing House 2001 Edition

Principles of Programming And Algorithm

Course Code **: 103**

Objectives : 1) To Know the Basics Of Programming
2)To Undestand how to use programming in day to day
Applications.

Chapter No.	Name of Content	No. of lectures
1.0	Introduction to 'C' Language	1

1.1 History
1.2 Structures of 'C' Programming
1.3 Function as building blocks

2.0	Language Fundamentals	1

2.1   Character set
2.2   C Tokens
2.3   Keywords
2.4   Identifiers
2.5   Variables
2.6   Constant
2.7   Data Types
2.8   Comments

3.0	Operators	1

3.1 Types of operators
3.2 Precedence and Associativity
3.3 Expression
3.4 Statement and types of statements

4.0	Built-in Operators and function	2

4.1 Console based I/O and related built-in I/O function
  4.1.1 printf( )
  4.1.2 scanf( )
  4.1.3 getch( )
  4.1.4 getchar( )
  4.1.5 putchar( )
4.2 Concept of header files
4.3 Preprocessor directives :
  4.3.1 #include

4.3.2 #define

| 5.0 | Control structures | 10 |

5.1 Decision making structures :
    5.1.1 If
    5.1.2 If-else
    5.1.3 Nested If -else
    5.1.4 Switch.
5.2 Loop Control structures :
    5.2.1 While
    5.2.2 Do-while,
    5.2.3 for, Nested for loop
5.3 Other statements :
    5.3.1 break
    5.3.2 continue
    5.3.3 goto
    5.3.4 exit

6.0   **Introduction to problem solving**

10

6.1 Concept : problem solving
6.2 Problem solving techniques (Trial & Error, Brain storming, Divide & Conquer)
6.3 Steps in problem solving(Define Problem, Analyze Problem, Explore Solution)
6.4 Algorithms and Flowcharts (Definitions, Symbols)
6.5 Characteristics of an algorithm
6.6 Conditionals in pseudo-code
6.7 Loops in pseudo code
6.8 Time complexity: Big-Oh notation, efficiency
6.9 Simple Examples: Algorithms and flowcharts (Real Life Examples)

| 7.0 | Simple Arithmetic Problems | 15 |

7.1 Addition / Multiplication of integers
7.2 Determining if a number is +ve / -ve / even / odd
7.3 Maximum of 2 numbers, 3 numbers
7.4 Sum of first n numbers, given n numbers
7.5 Integer division, Digit reversing, Table generation for n, a^b
7.6 Factorial, sine series, cosine series, ^nC_r , Pascal Triangle
7.7 Prime number, Factors of a number

7.8 Other problems such as Perfect number, GCD of 2
     numbers etc
          1.   (Write algorithms and draw flowcharts)
7.9 Swapping

8.0   Functions   8

     8.1 Basic types of function
     8.2 Declaration and definition
     8.3 Function call
     8.4 Types of function
     8.5 Parameter passing
          8.5.1 Call by value
          8.5.2 Call by reference

     8.6 Scope of variables
     8.7 Storage classes
     8.8 Recursion.

     Total   48

Referential Books:-
1. Let us C-Yashwant Kanetkar.
2. Programming in C- Balguruswamy
3. The C programming Lang., Pearson Ecl – Dennis Ritchie
4. Structured programming approach using C-Forouzah &Ceilberg Thomson learning publication.
5. Pointers in C – Yashwant Kanetkar
6. How to solve it by Computer – R. G. Dromy
7. Introduction to algorithms – Cormen, Leiserson, Rivest, Stein
http://www.cs.utexas.edu/users/rpriece
8.   Peter Norton's Introduction to Computers – Tata MGHill

Computer Fundamental and Office Automation

Course Code : 104

Objectives : 1) To Know the Basics Of Computer
2)To Understand the Basics of Operating systems
3)To Undestand how to use software packages in day to day
   activities

Sr. No.	Chapter Details	No. of Lect.
1	**Ch 1 : Introduction to Computers**	12

1.1 Introduction
1.2 Characteristics of Computers
1.3 Block diagram of computer
1.4 Types of computers and features
   1.4.1 Mini Computers
   1.4.2 Micro Computers
   1.4.3 Mainframe Computers
   1.4.4 Super Computers
1.5 Types of Programming Languages
   1.5.1 Machine Languages
   1.5.2 Assembly Languages
   1.5.3 High Level Languages
1.6 Data Organization
   1.6.1 Drives
   1.6.2 Files
   1.6.3 Directories
1.7 Types of Memory (Primary And Secondary)
   1.7.1 RAM
   1.7.2 ROM
   1.7.3 PROM
   1.7.4 EPROM
    1.7.5   Secondary Storage Devices (FD, CD, HD,
         Pen drive)
1.8   I/O Devices
   1.8.1 Scanners
   1.8.2 Digitizers
   1.8.3 Plotters
   1.8.4 LCD
   1.8.5 Plasma Display
1.9 Number Systems
   1.9.1 Introduction to Binary, Octal,
        Hexadecimal system
   1.9.2 Conversion

Referential Books :
1. Fundamental of Computers – By V. Rajaraman B.P.B. Publications
2. Fundamental of Computers – By P. K. Sinha
3. Computer Today- By Suresh Basandra
4. Unix Concepts and Application – By Sumitabha Das
5. MS- Office 2000(For Windows) – By Steve Sagman
6. Computer Networks – By Tennenbum Tata MacGrow Hill Publication

Business Accounting

Objective: To impart basic accounting knowledge

UNIT NO.	TOPICS	NO.OF LECTURES
1	**Introduction:** Financial Accounting-definition and Scope, objectives of Financial Accounting, Accounting v/s Book Keeping Terms used in accounting, users of accounting information and limitations of Financial Accounting.	**4**
2	**Conceptual Frame work:** Accounting Concepts, Principles and Conventions, Accounting Standards-concept, objectives, benefits, brief review of Accounting Standards in India, Accounting Policies, Accounting as a measurement discipline, valuation Principles, accounting estimates	**6**
3	**Recording of transactions:** Voucher system; Accounting Process, Journals, Subsidiary Books, Ledger, Cash Book, Bank Reconciliation Statement, Trial Balance. Depreciation**:** Meaning, need & importance of depreciation, methods of charging depreciation. .(WDV & SLM)	**16**
4	**Preparation of final accounts:** Preparation of Trading and Profit & Loss Account and Balance Sheet of sole proprietary business	**12**
5	**Introduction to Company Final Accounts:** Important provisions of Companies Act, 1956 in respect of preparation of Final Accounts. Understanding of final accounts of a Company.	**4**
6	**Computerised Accounting :** Computers and Financial application, Accounting Software packages. An overview of computerized accounting system - Salient features and significance, Concept of grouping of accounts, Codification of accounts, Maintaining the hierarchy of ledger, Generating Accounting Reports.	**6**
	TOTAL	**48**

Recommended Books :

1. Fundamentals of Accounting & Financial Analysis: By Anil Chowdhry (Pearson Education)

2. Financial accounting: By Jane Reimers (Pearson Education)

3. Accounting Made Easy: By Rajesh Agarwal & R Srinivasan (Tata McGraw –Hill)

4. Financial Accounting for Management: By Amrish Gupta (Pearson Education)

5. Financial Accounting for Management: By Dr. S. N. Maheshwari (Vikas Publishing House)

<div align="center">**Organizational Behavior**</div>

<div align="right">**Course Code: 201**</div>

Objective:

To enable the students to understand the impact that individual, group & structures have on behavior within the organizations and apply such knowledge towards improving organizational effectiveness.

<div align="right">No. of Lectures</div>

1. Fundamentals of Organizational Behavior **(8)**
      Nature, Scope, Definition and Goals of Organizational Behavior
      Fundamental Concepts of Organizational Behavior
      Models of Organizational Behavior
      Emerging aspects of Organizational Behavior: TQM, Managing Cultural Diversity, Managing the Perception Process

2. Attitude Values and Motivation **(8)**
      Effects of employee attitudes
      Personal and Organizational Values
      Job Satisfaction
      Nature and Importance of Motivation
      Achievement Motive
      Theories of Work Motivation: Maslow's Need Hierarchy Theory, McGregcrs's Theory 'X' and Theory 'Y'

3. Personality **(8)**
      Definition of Personality, Determinants of Personality
      Theories of Personality – Trait and Type Theories, The Big Five Traites, Mytes-Briggs Indicator, Locus of Control, Type A and Type B Assessment of Personality

4. Work Stress **(8)**
      Meaning and definition of Stress, Symptoms of Stress
      Sources of Stress: Individual Level, Group Level, Organizational Level
      Stressors, Extra Organizational Stressors
      Effect of Stress – Burnouts
      Stress Management – Individual Strategies, Organizational Strategies
      Employee Counseling

5. Group Behavior and Leadership **(8)**
      Nature of Group, Types of Groups
      Nature and Characteristics of team
      Team Building, Effective Teamwork

Nature of Leadership, Leadership Styles
Traits of Effective Leaders

6. Conflict in Organizations   **(8)**
Nature of Conflict, Process of Conflict
Levels of Conflict – Intrapersonal, Interpersonal
Sources of Conflict
Effects of Conflict
Conflict Resolution

Books Recommended:-

1. Organizational Behavior Text, Cases and Games- By K. Aswathappa, Himalaya
   Publishing House, Mumbai, Sixth Edition (2005)

2. Organizational Behavior Human Behavior at Work By J. W. Newstrom, Tata McGraw
   Hill Publishing Company Limited, New Delhi, 12th Edition (2007)

3. Organizational Behavior - By Fred Luthans

4. Organizational Behavior - By Super Robbins

5. Organizational Behavior - Anjali Ghanekar

6. Organizational Behavior Fandamentals, Realities and Challenges
        By Detra Nelson, James Campbell Quick Thomson Publications

7. Organizational Behavior through Indian Philosophy
   By N. M. Mishra, Himalaya Publication House

Elements of Statistics

Objectives : 1.To understand the concept of population and sample.
2.To use frequency distribution to make decision.
3.To understand and to calculate various types of averages and variation.
4.To use the concept of probability in business.
5.To understand the concept and importance of statistical quality control.

Marks : 100   **No. of Lectures**

Unit1. Population, Sample and Data Condensation: (5)

Definition and scope of statistics, concept of population and sample with Illustration, Raw data, attributes and variables, classification, frequency distribution, Cumulative frequency distribution.

Unit 2. Measures of Central Tendency: (8)

Concept of central Tendency, requirements of a good measures of central tendency, Arithmetic mean, Median, Mode, Harmonic Mean, Geometric mean for grouped and ungrouped data.

Unit 3.   Measures of Dispersion: (8)

Concept of dispersion, Absolute and relative measure of dispersion, range, variance, standard deviation , Coefficient of variation.

Unit 4.   Permutations and Combinations: (6)

Permutations of 'n' dissimilar objects taken 'r' at a time (with or without repetitions). $^nP_r = n! / (n-r)!$ (without proof). Combinations of 'r' objects taken from 'n' objects. $^nC_r = n! / (r! (n-r)!)$ (without proof) . Simple examples , Applications.

Unit 5. Sample space , events and Probability   (13)

Experiments and random experiments. Ideas of deterministic and non-deterministic experiments. Definition of - sample space, discrete sample space, events. Types of events, Union and intersections of two or more events, mutually exclusive events, Complementary event, Exhaustive event.
Simple examples.
Classical definition of probability, Addition theorem of probability without

proof (upto three events are expected), Definition of Conditional
Probability Definition of independence of two events ,simple numerical   problems.

Unit 6. Statistical Quality Control :   (8)

Introduction, control limits, specification limits, tolerance limits , process
and product control. Control charts for X and R. Control charts for
number of defective (np- chart), control charts for number of defects
(c- chart)

Recommended Books :

1)   S.C. Gupta - Fundamentals of Statistics – Sultan chand & sons, Delhi.
2)   D.N. Elhance – Fundamentals of Statistics – Kitab Mahal, Allahabad.
3)   Montgomery D.C. – Statistical Quality Control
                                     John Wiley and sons.
4)   Goon, Gupta and Dasgupta – Fundamentals of Statistics - The world press
                                                   private ltd. , Kolkata.
 5) Hogg R.V. and Craig R.G. – Introduction to Mathematical
             Statistics Ed 4 (1989) - Macmillan Pub. Co. New York .
 5)   Gupta S.P. – Statistical Methods, Pub – Sultan Chand and sons
          New Delhi

'C' Programming

Objectives : 1) To Know the concepts of " C " Programming
2)To Undestand how to use programming in day to day
Applications.

No. of Lectures

1.0	Arrays
	
	1.1 Definition, declaration and initialization of one dimensional array
	1.2 Accessing array elements
	1.3 Displaying array elements
	1.4 Sorting arrays,
	1.5 Arrays and function,
	1.6 Two-Dimensional array
	    1.6.1 declaration and initialization
	    1.6.2 accessing and displaying
	    1.6.3 memory representation of array
	        1.6.3.1 row major,
	        1.6.3.2 Column major.
	1.7 Multidimensional array
		8

2.0	Pointers 2.1 definition and declaration, Initialization 2.2 indirection operator, address of operator 2.3 pointer arithmetic 2.4 dynamic memory allocation 2.5 arrays and pointers 2.6 function and pointers	7

3.0	Strings
	
	3.1 Definition, declaration and initialization of strings
	3.2 standard library functions :
	    3.2.1 strlen( )
	    3.2.2 strcpy( )
	    3.2.3 strcat( )
	    3.2.4 strcmp( )
	3.3 Implementation without using standard library
		7

		functions	
4.0	Structures 4.1 Definition and declaration 4.2 Variables initialization 4.3 Accessing fields and structure operations 4.4 Nested structures 4.5 Union 4.5.1. Definition and declaration. 4.6 Differentiate between Union and structure		8
5.0	Introduction C Preprocessor 5.1 Definition of Preprocessor 5.2 Macro substitution directives 5.3 File inclusion directives 5.4 Conditional compilation.		2
6.0	Bitwise Operators 6.1 Bitwise operators 6.2 Shift operators 6.3 Masks 6.4 Bit field		1

7.0	File handling
	
	7.1 Definition of Files, Opening modes of files
	7.2 Standard function:
	      7.2.1 fopen( )
	      7.2.2 fclose( )
	      7.2.3 feof( )
	      7.2.4 fseek( )
	      7.2.5 rewind( )
	7.3 Using text files:
	
	      7.3.1 fgetc( )
	      7.3.2 fputc( )
	      7.3.4 fprintf( )
	      7.3.5 fscanf( )
			6

8.0	Command line arguments		1
	Total		40

Referential Books:-

1. Let us C-Yashwant Kanetkar.
2. Programming in C- Balguruswamy
3. The C programming Lang., Pearson Ecl – Dennis Ritchie
4. Structured programming approach using C-Forouzah &Ceilberg Thomson learning publication.

5. Pointers in C – Yashwant Kanetkar

File Structure and Database Concepts

Course Code : 204

Objectives : 1) To Know the Fundamentals of Databases
2) To Undestand how to use Databases in day to day
Applications.

Unit No.	Chapter Details	No. of Lect.
1.	**File Structure and Organization**	**6**
	1.1 Introduction	
	1.2 Logical and Physical Files	
	1.2.1 File	
	1.2.2 File Structure	
	1.2.3 Logical and Physical Files Definitions	
	1.3 Basic File Operations	
	1.3.1 Opening Files	
	1.3.2 Closing Files	
	1.3.3 Reading and Writing	
	1.3.4 Seeking	
	1.4 File Organization	
	1.4.1 Field and Record structure in file	
	1.4.2 Record Types	
	1.5 Types of file organization	
	1.5.1 Files of Unordered Records (Heap Files)	
	1.5.2 File of Ordered Records (Sorted Files)	
	1.5.3 Hash Files	
	1.6 Over View of Indexes	
	1.6.1 Dense Index	
	1.6.2 Sparse Index	
2.	**Tree Structured Indexing**	**3**
	2.1 Introduction	
	2.2 Index Sequential Access Method (ISAM)	
	2.2.1 Structure of index sequential File	
	2.3 B+ Tree : A Dynamic Index Structure	
	2.3.1 Operations on B+ Tree	
	a. Search	
	b. Insertion	
	c. Deletion	
3.	**Database Management System**	**6**
	3.1 Introduction	
	3.2 Definition of DBMS	
	3.3 file processing system Vs DBMS	
	3.3.1 Limitation of file processing system	

References:
   1) Database System Concepts By Henry korth and A. Silberschatz
   2) An Introduction to Database System by Bipin Desai
   3) File Structure by Michael J. Folk, Greg, Riccardi
   4) Teach Yourself SQL in 14 days by Jeff Parkins and Bryan Morgan
   5) Introduction to Postgresql Wrox Publication

Cost Accounting

Course Title   : Cost Accounting

Objectives:1) To Impart the Knowledge of Basic cost concepts, element of cost & Preparation
               of Cost Sheet.
               2)To provide basic knowledge of important Methods & Techniques of costing.

Level of Knowledge   :   Basic understanding of the subject.

<u>Units</u>	<u>Topics</u>	<u>Teaching Hrs</u>

<u>Unit 1:</u> <u>Introduction.</u>   8

      1.1 Concept of cost, costing, cost Accounting & Cost Accountancy
      1.2. Limitations of Financial Accounting
      1.3. Origin and objectives of cost Accounting
      1.4. Advantages and Limitations of Cost Accounting
      1.5. Difference between Financial and Cost Accounting
      1.6. Cost Unit & Cost Centre

<u>Unit 2:</u> <u>Elements of cost</u>   8

      2.1. Material, Labour and other Expenses
      2.2. Classification of cost & Types of Costs
      2.3. Preparation of Cost Sheet

<u>Unit 3:</u> <u>Methods of Costing (Theory Only)</u>   14

      3.1. Job Costing – Meaning, Features, Advantages and Limitation
      3.2. Contract Costing – Basic Concepts
      3.3. Process Costing - Meaning, Features, Normal and Abnormal
        Loss/   Gains
      3.4. Operating Costing – Meaning, Features & Objectives

Techniques of Costing

Unit 4.   **Budget and Budgetary Control**- Definition, Meaning and   6
               objectives of Budgetary control Advantages and disadvantages
               of Budgetary Control Types of Budget

Unit 5.   **Marginal Costing** – Meaning and Various Concepts - Fixed Cost   6
               Variable Cost, Contribution, P/V Ratio, Break Event Point, Margin

of Safety

Unit 6.   **Standard Costing**- Definition and Meaning of Various Concepts   6

       Advantages and Limitations of Standard Costing

       Variance Analysis – Material and labour Variances only

                  Total Periods   48

Area of Practical problems:

Simple Problems on

1) Cost Sheet

2) Techniques of Costing

    I) Marginal Costing

    II) Budget and Budgetary Control – Flexible and Cash

                Budget

    III) Standard Costing – Material and Labour Variances only

Allocation of Marks:

    Theory   – 50%

    Practical Problems – 50%

Compulsory one industrial visit for updating practical knowledge.

Books, Journals and Website Recommended: -
Books -
1. Advanced cost Accounting by Saxena and Vasistha.
2. Advanced cost Accounting by S.P.Jain and Narong.
3. Cost Accounting by S.N.Maheshwari
4. Cost Accounting by Ratnam.
5. Practice in Advanced Costing and Management Accounting by
       Prof. Subhash Jagtap
       Nirali Prakashan, Pune.
6.Cost and Works Accounting II and III-
       Prof. Subhasg Jagtap,
       Prof.Pagar and Dr.Nare
       K.S.Publication,Pune.
7.Cost Accounting – Bhatta HSM,Himalaya Publication
8. Cost Accounting – Prabhu Dev , Himalaya Publication
9. Advanced Cost Accounting – Made Gowda,Himalaya Publication
Journals –   **Management Accountant – The ICWA of India, Kolkatta**
    CD   on Cost- sheet Prepared by Asian center   for Research and Training

Website-

www.myicwai.com.