Shivaji University, Kolhapur

Revise Syllabus of
Bachelor of Computer Application (BCA)
(Under the Faculty of Commerce)
w.e.f. Academic year 2014-15 and onwards
BCA Part - III
(Semester V & VI)

Ref.No./SU/BOS/Commerce /BCA/2231 Date: 10 Jun 2015

The Principal,
All Affiliated B.C.A. Colleges
Shivaji University, Kolhapur.

Subject: Regarding revised Syllabi, Nature of Question Paper and Equivalence of B.C.A. Part-III (Semester V & VI) under the Faculty of Commerce.

Sir/Madam,

With reference to the subject mentioned above, I am directed to inform you that the university authorities have accepted and granted approval to the revised syllabi of B.C.A. Part-III (Semester -V & VI) under the Faculty of Commerce.

This syllabi will be implemented from the academic year 2015-16 (i.e. from June 2015) onwards. A soft copy (C.D.) containing the syllabus is enclosed herewith. This syllabi is also available on university website www.unishivaji.ac.in.

The question papers on the pre-revised syllabi of above mentioned course will be set for the examinations to be held in Oct/Nov-2015 & March/April-2016. These two chances are available for repeater students, if any.

You are, therefore requested to bring this to the notice of all students and teachers concerned.

Thanking you,

Yours faithfully,
Sd/-
Dy. Registrar

SHIVAJI UNIVERSITY, KOLHAPUR

"A" Re-Accredited By NAAC

(2014) with CGPA-3.16

Revised Syllabus For

Bachelor of Computer Applications

Semester – V and VI

(Under Faculty Of Commerce)

Syllabus to be implemented from June 2015-16 onwards.

Revised Syllabus of

BACHELOR OF COMPUTER APPLICATIONS (BCA) COURSE

(Under the Faculty of Commerce)

w.e.f. Academic Year 2015-16

Structure of the Course:

Paper No.	Name of The subject	Teaching Scheme		Examination Scheme		
		Theory per week	Total Practical per week per batch	Theory Marks	Internal Marks	Total Marks
B.C.A. Part- III Semester – V						
501	Management Accounting	4	--	80	20	100
502	E-Commerce	4	--	80	20	100
503	Computer Network	4	--	80	20	100
504	RDBMS with Oracle	4	--	80	20	100
505	Visual Programming	4	--	80	20	100
506	Lab Course based on 504 and 505	--	4	--	50	50
507	Mini Project	--	2	--	50	50
	Total	20	06	400	200	600
B.C.A. Part- III Semester - VI						
601	Strategic Management	4	--	80	20	100
602	Data Mining and Data Warehousing	4	--	80	20	100
603	Linux Operating System	4	--	80	20	100
604	Java Programming	4	--	80	20	100
605	Lab Course based on Paper no.- 603	--	4	--	50	50
606	Lab Course based on Paper no. 604	--	4	--	50	50
607	Major Project	--	2	80	20	100
	Total	16	10	400	200	600

BCA-III (Sem.-V)
Paper No. 501: Management Accounting

Objectives: To make the students able to apply the techniques of Management Accounting

Unit - 1: Introduction to Management Accounting: 10

Meaning and Nature of Management Accounting, Role of Management Accountant in Planning, Controlling and Decision Making, Difference between Financial Accounting and Management Accounting, Tools and Techniques of Management Accounting.

Unit 2: Financial Statement Analysis 10

Importance of Financial Statement Analysis, Techniques of Financial Statement Analysis- Ratio Analysis, Classification of Ratios- Profitability Ratio, Turnover Ratios, Liquidity Ratios, Solvency Ratios.

Unit 3 : Cost-Volume- Profit(CVP) 10

Analysis and Decision Making- Break Even Analysis, Cost-Volume- Profit Analysis, Decision Making- Make or Buy Decisions, Shut Down or Continue Decisions, Alternative Course of Action etc.

Unit 4: Budgetary Control 10

Meaning of Budget and Budgetary Control, Objectives, Advantages, Limitations of Budgetary Control, Types of Budget- Production, Sales, Cash, Master Budget, Capital Expenditure, Budgeting.

Reference Books:

1. Management Accounting By Khan and Jain
2. Principles of Management Accounting By Manmohan and Goyal
3. Principles of Management Accounting BY Maheshwari
4. Management Accounting By Pandey I. M.
5. Introduction to Management Accounting By Charles T. Homgren

Course Outcome Number	Course Outcome
CO1	Describe the role and importance of management accounting in the organization
CO2	Identify different tools and techniques of management accounting
CO3	Solve problems on financial statement analysis using ratio analysis tool
CO4	Understand the importance of CVP analysis and solve problems on the same
CO5	Describe the importance of budget and budgetary control system
CO6	Prepare different budgets such as cash, production, sales and master budget

BCA-III

(Sem.-V)

Paper No. 502: E-Commerce

Unit-1- Introduction **12**

1.1 E-Commerce- Concept, Definition, Goals
1.2 Components and functions
1.3 Advantages and Limitations
1.4 Challenges and opportunities
1.5 E-Commerce models-C2C, C2B, C2G, B2C, B2B, B2G
1.6 EDI- Concept, components,
1.7 Working mechanism of EDI
1.8 Advantages and disadvantages of EDI

Unit-2-Electronic payment System **12**

4.1 Concept of e-payment
4.2 Difference between traditional and electronics payment system
4.3 Digital cash
4.4 Credit and Debit card system, Smart Card
4.5 Prepaid, post paid and instant payment system
4.6 Electronic funds transfer
4.7 Concept of e-banking

Unit-3-E-Security **12**

6.1 Concept of E-security
6.2 Security threats- concept and types
6.3 Malicious code
6.4 Phishing and identity theft
6.5 Hacking and cyber vandalism
6.6 Credit card fraud/Theft
6.7 Spoofing
6.8 Denial of service (DoS)
6.9 Firewall and proxy server

Unit-4-Security Solutions **12**

5.1 Concept of encryption and decryption
5.2 Symmetric and asymmetric key encryption
5.3 Cipher text
5.4 Digital Envelopes
5.5 Digital certificates
5.6 Security socket layer (SSL)
5.7 Limitations of encryption solutions.

References :

1. E-Commerce- Kenneth C.Laudon and Carol Guercio Traver
2. Internet marketing and E-commerce-Ward Hanson and Kirthi Kalyanam
3. E-Commerce Concepts , Models , Strategies by -- G.S.V Murthy
4. E-Commerce by --Kamlesh K Bajaj and Debjani Nag
5. Electronic Commerce by --Gary P. Schneider
6. E-Commerce A Managers Guide, Ravi Kalkota

Course Outcome Number	**Course Outcome**
CO1	To develop an understanding of scope of E-Commerce.
CO2	Define and analyze the concept of electronic data interchange and its legal, social and technical aspects.
CO3	Define and analyze the security issues over the web, the available solutions and future aspects of e-commerce security.
CO4	Define and analyze the concept of E-banking, electronic payment system
CO5	To develop an understanding of business models.
CO6	Define and analyze the traditional Commerce and E-commerce

B.C.A.- Part-III
Sem-V
Paper- 503 Computer Network

UNIT –1Basics of Data communication **12**

1.1. Data Communication concept

1.1.1 Components-sender, receiver, message, transmission media

1.1.2 Data Flow- simplex, half-duplex, or full-duplex

1.2 Networks

1.2.1 Definition, Advantages and disadvantages

1.2.2 Categories of Networks- LAN, WAN. MAN

1.2.3 Network Architecture-Client-Server and Peer to peer

1.3 Multiplexing and switching

1.3.1 Frequency-Division Multiplexing, Wavelength-Division Multiplexing, Time-Division Multiplexing

1.3.2 Circuit switching, Packet Switching, Message Switching

UNIT – 2 Transmission media and Reference Models **12**

2.1 Transmission Media

2.1.1 Guided Media - Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable

2.1.2 Unguided Media: Radio Waves, Microwaves, Infrared, satellite communication

2.2 Transmission Modes- Parallel and Serial -(Asynchronous, Synchronous)

2.3 Reference Models

2.3.1 OSI reference model

2.3.2 TCP/IP reference model

2.3.3 Comparison of OSI and TCP/IP reference model

2.4 Protocol Standards

2.5 IP address scheme and characteristics of IP address

UNIT-3 Data link, Network and Transport layer **12**

3.1 Data link Layer-

3.1.1 Design issues

3.1.2 Framing, error detection and correction

3.2 Network layer

3.2. 1 design issues of network layer

3.2.2 Routing algorithm (shortest path, Flooding, distance vector,)

3.2.3 Congestion control

3.3 Transport layer

3.3.1 Transport Layer Primitives: listen, connect, send, receive, disconnect

3.3.2 Protocols: TCP, UDP

UNIT- 4 Session, Presentation and Application layer **12**

4.1 Session layer:

4.1.1 Services: dialog management, synchronization, activity management, exception handling

4.1.2 Remote procedure calls

4.2 Presentation layer:

4.2.1 Services: Translation, compression, encryption

4.2.2 Cryptography: concept, symmetric key & asymmetric key cryptography

4.3 Application layer:

4.3.1 Function4.3.2 Domain name system (DNS),Hypertext Transfer Protocol (HTTP),Simple Mail Transfer Protocol (SMTP) ,Telnet, File Transfer Protocol (FTP)

Reference Books-

1. Behrouz A. Forouzan- Data Communications And Networking - (4th edition) McGraw-Hill
2. Tanenbaum A.S. “Computer Network”, 3rd Edition, Prentice Hall of India
3. Stalling W, “Computer Communication Network”.(4th edition). Prentice hall of India 1993
4. Computer Networking: A Top Down Approach Featuring in Internet by James F. Kurose & K. W. Ross

Course Outcome Number	**Course Outcome**
CO1	Ability to get the basic introduction of network system
CO2	Develop some basics of network system
CO3	Ability to get the basic hardware and software used in networking
CO4	Understanding the basic TCP/IP protocols used in networking
CO5	Understanding the goals of each and every layers used in networking
CO6	Ability to get information about the organizational servers for better information

B.C.A. Part – III
(Sem- V)
Paper No. 504: RDBMS with Oracle

Unit –1: Relational Database Management System: **12**

1.1 Concept of RDBMS, Difference between DBMS and RDBMS, Features of RDBMS.

1.2 Introduction of Oracle, Role and responsibilities of DBA.

1.3 RDBMS Terminology- Relation, Tuple, Cardinality, Attribute, Degree, Primary Key, Domain, Codd's Rules

1.4 Relational Model, Functional Dependencies, Normalization and its types.

Unit –2: INTRODUCTION TO SQL: **12**

2.1 Features of SQL, Data types,

2.2 Classification of SQL Commands – DDL (create, alter, drop), DML (insert, update, delete), DCL (grant, revoke), TCL (rollback, commit).

2.3 SQL Integrity Constraints-(Primary key, Foreign key, unique key, not null, default, check)

2.4 Select statement with group by and order by clause

2.5 SQL Operators-arithmetic, relational, Logical, Like, Between, IN operator

2.6 SQL Functions- Arithmetic functions, Conversion Functions, Date function, Aggregate functions, String functions.

Unit – 3: JOIN AND SUB QUERIES: **12**

3.1 Join types - Inner Join, Outer Join, Cross Join and self-Join

3.2 Sub-queries, Multiple sub queries, nesting of sub queries, sub queries in DML commands.

3.3 Correlated queries, Indexes, Sequences. Views-Create View, Drop, View and its Advantages.

Unit – 4: INTRODUCTION TO PL/SQL:

4.1 Introduction to PL/SQL, Block Structure

4.2 Data types in PL-SQL

4.3 Control Structures-Branching statements, Iterative Control statements.

4.4 Cursors –Concept, Types- Implicit, Explicit, Procedure to create explicit cursors, Cursor Attributes.

4.5 TRIGGERS: Concept and types.

References Books:

1) SQL, PL/SQL: The Programming Language- Ivan Bayross- (BPB)
2) Structured Query Language- by Osbome
3) SQL by Scott Ullman.
4) SQL & PL/SQL Black Book for Oracle by Dr,P.S.Deshpande.

Course Outcome Number	**Course Outcome**
CO1	State SQL, DDL, DML, DCL Statements
CO2	Explain Select, group by & having clause
CO3	Explain String & set operations
CO4	Describe Aggregate Functions
CO5	Describe Nested Sub Queries
CO6	Describe Embedded & Dynamic SQL

B.C.A. Part – III
(Sem- V)
Paper No- 505 Visual Programming

Unit -1: Introduction

1.1 overview, Architecture, Features of .NET ,

1.2 Meta data, CLR, Managed and unmanaged code

1.3 CTS, CLS, .NET base classes

1.4 Introduction to Visual Studio .NET IDE

1.5 Types of JIT compiler

Unit -2: Introduction To C# 12

2.1 Introduction to C#, Entry point method, command line arguments

2.2 Compiling and building projects, Compiling a C# program using command line utility, CSC.EXE, Different valid forms of main.

2.3 Global stack and heap memory, reference type and data type, casting-implicit and explicit

2.4 Boxing and unboxing, pass by value and pass by reference and out parameters

2.5 Partial class, DLL, Difference between DLL and EXE

Unit-3: Introduction to Web Programming 12

3.1 Understanding role of WEB server and WEB browser, HTTP request and response structure.

3.2 Introduction to ASP, Types of path, FORM tag

3.3 Types of server controls

3.4 Validation controls-Base validator, compare validator, range validator, grouping control validator

3.5 Web forms life cycle

3.6 Event handling in WEB forms, response.redirect, server.response, cross page post back property of button

3.7 ASP.NET state management

3.8 WEB.config, globalization and localization, AppDomain

Unit- 4: ADO .NET **12**

4.1 Introduction to ADO.Net

4.2 ADO.NET Architecture- Conncetion, command, dat reader, data adapter, data set

4.3 Understanding connected layaer of ADO.NET and disconnected layer of ADO.NET

Reference Books-

1. Inside C# - By Tom Archer, Andrew Whitechapel (Microsoft Pub)
2. ASP.NET Black Book- By Steven Holzner
3. Professional ASP.NET 2 –Wrox Series- Wallace B. McClure

Course Outcome Number	**Course Outcome**
CO1	Describe the features and scope of .Net framework.
CO2	Understand the concept of portability.
CO3	Understand the applications of DLL and EXE.
CO4	Analyze the importance of different features of ASP.Net programming.
CO5	Understand the importance and scope of Web Programming applications
CO6	Understanding the standards of RDBMS with ADO.Net.

B.C.A. Part – III (Sem- V)

Paper No. 506: Lab Course based on 504 and 505

Lab exercise based on paper 504- RDBMS with Oracle

1. SQL queries on DDL statements.
2. SQL queries on DML statements.
3. SQL queries on Operators-relational, Logical, Like, Between, IN operator
4. SQL queries on Oracle Functions and clauses
5. SQL queries on Join
6. Creating Views and index
7. PL-SQL block on branching statement.
8. PL-SQL block on looping statement.
9. PL-SQL blocks to create explicit cursor.
10. PL-SQL blocks to study attributes of explicit cursor.
10. PL-SQL blocks to create Trigger.

Course Outcome Number	**Course Outcome**
CO1	Brief knowledge about SQL Fundamentals
CO2	Able to handle with different Data Base languages.
CO3	Table View, Log & Triggers.
CO4	Introduction to different Database packages (Oracle/ Sql/etc.)Commit & Rollback.
CO5	Database connectivity with front-end.
CO6	Describe PL SQL Block

B.C.A. Part – III (Sem- V)
Paper No 507: Mini Project

The group of students may undertake a software project in consultation with the internal guide. The group size should not exceed four students. The student is expected do project in any language studied in Vth or earlier Semesters. The mini Project will be evaluated by the external examiners appointed by University. Project documentation format is as per paper no 607.

Course Outcome Number	Course Outcome
CO1	Understand the system requirements.
CO2	Understand the system feasibility.
CO3	Understand the system architecture.
CO4	Understand the coding in different languages
CO5	Understand the different frameworks.
CO6	Understand the system flow & its behavior.

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B.C.A. Part – III
(Sem- VI)
Paper No.601 Strategic Management

Objectives:

1) To acquaint the students with the basic concepts of strategic management and its growing importance in modern era.
2) To familiarize the students with the process of strategic management.

Unit-1: Introduction to Strategic Management (15)

a) Strategic Management: Meaning and definitions of strategy and strategic Management- Need for Strategic Management- Steps involved in Strategic Management Process- Role of Board of Directors, Chief Executive Officers and Senior Management in Strategic Management

b) Strategic management in different context: Strategic management in small business, multinational corporations, manufacturing and service organizations (especially software companies) public sector, voluntary and not-for-profit organizations and professional organizations-

c) Strategic Management in India

Unit-2: Levels of Strategies (15)

a) Corporate-level Strategies: Grand, Stability, Expansion, Retrenchment, Combination Strategies and Corporate Restructuring

b) Business- Level Strategies: Cost Leadership, Differentiation and Focus Business Strategy,

c) Tactics of Business Strategies

Unit-3: Strategy Formulation (15)

a) Developing a vision and mission statement- Characteristics of a good vision and mission statement

b) Defining organizational goals and objectives- Characteristics of objectives

c) Analysis of internal and external environment: SWOT Analysis and TOWS Matrix

d) Generating strategic options and choosing a strategy

e) Challenges faced during strategy formulation

Unit-4: Strategy Implementation, Evaluation and Control (15)

a) Concept of strategy implementation- Inter-relationship of strategy formulation and implementation-

b) Process of strategy implementation: resource allocation- structures for strategies (Mechanistic, organic tall, flat-SBU, matrix, network, structures), strategic leadership. Functional strategies (marketing, financial, operational and personnel)

c) Concept of strategic evaluation and control- importance of strategic evaluation- problems in strategic evaluation-

d) Process of strategic control– types and techniques of strategic control

Reference Books:

1) Strategic Management and Business Policy--- Azhar Kazmi, Tata McGraw Hill, 3rd Ed. 2009.

2) Strategic Management, Concepts and Cases--- Fred R. David, Pearson Education, 9th Ed. 2005.

3) Competitive Advantage--- Michael E. Porter, Free Press.

4) Globalization, Liberalization and Strategic Management---V. P. Michael. Himalaya Publishing House

5) Crafting and Executing Strategy- The quest for competitive advantage, Concept and Cases--- A.A. Thompson, A.J. Strickland, John E. Gamble, Arum K.Jain , Tata McGraw Hill-2010

6) Business Policy and Strategic Management---P. Subba Rao, Himalaya Publishing House

7) Strategic Management---Alpana Trehan, Kogent, LearningSolutions Inc.

8) Strategic Management--- Nitish Sengupta, K.J.S. Chandan , Vikas Publishing House Pvt. Ltd. New Delhi.

9) Strategic Management--- Pendra Kachru, ExcelBooks, New Delhi.

10) Strategic Management---Saroj Datta, Jaico Publishing House, New Delhi.

11)Strategic Management --- N. Chandrsekaran and P.S. Ananthanarayanan, Oxford University Press, New Delhi

12) Business Policy and Strategic Management -- Sukul Lomash and P.K. Mishra, (Vikas Publishing House Pvt. Ltd. New Delhi)

Course Outcome Number	**Course Outcome**
CO1	Describe the process of Strategic Planning
CO2	Identify different levels at which strategies are formulated
CO3	Understand importance of SWOT analysis and TWOS matrix in strategy formulation
CO4	Define factors involved in strategic choice and alternatives
CO5	Explain the relationship between strategic formulation and implementation
CO6	Elaborate the tools and techniques of strategic evaluation and control

B.C.A. Part – III

(Sem- VI)

Paper No. 602 Data Mining and Data Warehousing

Unit - 1: Introduction to Data Mining **12**

1.1 Basic Data mining Task

1.2 DM versus Knowledge Discovery in Databases

1.3 Data Mining Issues

1.4 Data Mining Metrics

1.5 Social implementation of Data Mining

1.6 Overview of Application of Data mining

1.6.1 Architecture of DW

1.6.2 OLAP and Data Cubes

1.6.3 Dimensional Data Modeling - star , snowflake schemas

1.6.4 Data processing - Need Data cleaning. Data integration and Transformation, Data reduction

1.6.5 machine learning

1.6.6 pattern matching

Unit - 2:Data Mining techniques **14**

2.1 Frequent item - set and association rule mining: apriori algorithm, use of sampling for frequent item- set tree algorithm

2.2 graph sampling : frequent sub graph mining . tree mining ,sequence mining

2.3 Classification and prediction:

2.3.1 Decision tree [3 hrs]

2.3.2 Construction, performance, attribute selection

2.3.3 Issues : Over fitting tree pruning methods, missing values, continuous classes

2.3.4 Classification and regression tree(CART)

2.3.5 Bayesians Classification [6 hrs]

2.3.6 Bayesians theorem , Narvee Bayes classifier

2.3.7 Bayesian networks

2.3.8 Inference

2.3.9 Parameter and structure learning

2.3.10 Leaner classification [4 hrs]

2.3.11 Least squares, logistics , perception and SVM classifiers

2.3.12 Prediction [3 hrs]

2.3.13 Linear regression

2.3.14 Non-linear regression

Unit – 3: Clustering **12**

3.1 K-means

3.2 expectation maximization (EM) algorithm

3.3 Hierarchical clustering , Carrolton clustering

Unit - 4: Software for Data mining and application of Data mining **10**

4.1 R

4.2 Weka

4.3 Sample applications of data mining

Reference Book

1. Data Mining : Concept and Techniques Han Elsevier ISBN : 978938031913
2. Margaret H. Dunham , S. Shridhar Data Mining- Introductory and advanced topics Pearson education
3. Tom Mitchell- machine learning McGraw hill 1997

Course Outcome Number	**Course Outcome**
CO1	Understand the data extraction and transformation techniques.
CO2	List the association rule mining techniques and understand association mining to correlation analysis, constraint based association mining.
CO3	Understand operational database, warehousing and multidimensional need of data base to
	Meet industrial needs.
CO4	Understand the components of warehousing, classification methods and clustering analysis.
CO5	Identify and understand the Business analysis, query tools and application, OLAP etc.
CO6	Select and apply proper data mining algorithms to build analytical applications.

B.C.A. Part – III

(Sem- VI)

Paper No - 603: Linux Operating System

Unit-1 Introduction 12

1.1 Operating system

1.2 Types of operating system

1.3 Functions of operating system

1.4 History and development of Linux

1.5 Features of Linux

1.6 Login , logout procedure, Concept of shell, kernel, Kernel-shell relationship

Unit-2 Handling files and directory's 12

2.1 Concept of file, types, file system tree

2.2 Different GPU (clear ,cal , date, wc, who)

2.3 file handling- ls ,cat ,cp, mv , rm commands , listing file names, using meta characters (* , ? ,[ ]).

2.4 Concept of directory , home directory , directory handling commands- cd , mkdir, rmdir,pwd.

2.5 Basic file attributes, change file/directory, chmod command

2.6 Filters-cut, paste, sort, unique, head, tail, grep commands.

2.7 Command linking using pipe (|) operator, command substitution.

Unit-3 VI editor 12

3.1 Vi Editor, use of VI , features of VI

3.3 Different modes and working with VI editor

3.4 Command mode -cursor movements(k,j,h,l), delete(character, line, word), Screen up , down, use of repeat factor , joining lines (J), searching for pattern (/ and ?)

3.5 Input mode- switching with (I,o,r,s,a,I,O,R,S,A)

3.6 ex mode – saving (w, x, q)

Unit- 4 Simple Shell programming 12

4.1 Concept of Shell Script, running a shell script

4.2 Statements – read , echo , test , if, case , exit.

4.3 Loops- while, until, for

4.4 Command line arguments

4.5 Exit status of a command

Reference books-

1. Unix concept and applications ------Sumitabha Das
2. Unix shell programming- Yashwant Kanetkar
3. Linux programming- Foreword By- Alan Cox
4. RedHalt Linux 718 By Bill Ball , David Pitts

Course Outcome Number	**Course Outcome**
CO1	To get introduction to Linux Operating System.
CO2	Ability to understand the basic command used in Linux
CO3	Ability to find out the errors and solve the problems
CO4	Able to study the shell script programs in Linux.
CO5	Understanding the conditional and looping statements for programming
CO6	Understand and create shell script programs

B.C.A. Part – III

(Sem- VI)

Paper No-604: Java Programming

Unit- 1- Introduction To Java **12**

1.1 History and features of Java Programming

1.2 Difference between Java & C++

1.3 Java Environment

1.4 Java tokens, constants, variables, data types, type casting

1.5 Operators and Expressions

1.6 Implementing Java Program

1.7 Branching and looping statements

1.8 Class, objects, methods

1.9 Constructors and destructor

Unit-2- Inheritance and Packages **12**

2.1 Defining sub class, subclass constructor

2.2 Inheritance-Multiple and hierarchical

2.3 Defining packages, system packages

2.4 Creating & accessing packages

2.5 Adding a class to package

2.6 Polymorphism- function overloading and over ridding, its difference

Unit-3- Multithreading and Exception Handling **12**

3.1 Creating threads, extending a thread class- declaring the class, run() method

3.2 Stopping and blocking threads

3.3 Life cycle of thread

3.4 Using thread method

3.5 Thread priority

3.6 Introduction to exception

3.7 Syntax of exception handling code

3.8 Multiple catch statement

3.9 Using finally statement

3.10 Throwing exception

Unit- 4- Applets Programming & Introduction to AWT **12**

4.1 Introduction to applets
4.2 Building applet code
4.3 Applet life cycle
4.4 Adding applet code to HTML file
4.5 Introduction to Abstract Window Toolkit (AWT)

Reference Books:

1. Programming with JAVA, A Primer, 2nd Editions, E Balagurusamy
2. Java Programming- Rajendra Salokhe (Aruta Pub)
3. Core Java an integrated approach – Dr R. Nageshwara

Course Outcome Number	Course Outcome
CO1	To get introduction to Linux Operating System.
CO2	Ability to understand the basic command used in Linux
CO3	Ability to find out the errors and solve the problems
CO4	Able to study the shell script programs in Linux.
CO5	Understanding the conditional and looping statements for programming
CO6	Understand and create shell script programs

B.C.A. Part – III

(Sem- VI)

Paper-No-605: Lab Course based on Paper no.- 603

Practicals-

1. Login , logout procedure (user/ login name and password)
2. Copy, move, delete files form different directories.
3. Change file access permissions using chmod and confirm using ls –l command
4. Use of filter commands
5. Creating text files using VI editor.

Shell scripts-

1. Shell script to get any number and display its square , cube sum of its digits
2. Use of command line arguments in a script.
3. Script using if statement.
4. Script handling use of case structure.
5. Scripts with command substitution such as to count number of files, number of users working on Linux network etc,

B.C.A. Part – III (Sem- VI)

Paper No 606: Lab Course based on Paper no. 604

Sample programs

1. Java programs based on command line arguments
2. Java programs based Type Casting
3. Java programs based on branching and looping statements
4. Java programs based on constructors
5. Java programs based on method overloading
6. Java programs based on interfaces
7. Java programs based on inheritance
8. Java programs based on packages
9. Java programs based on multithreading
10. Java programs based on exception handling
11. Java programs with applets

B.C.A. Part – III

(Sem- VI)

Paper No 607: Major Project

A group of maximum four students prepare a major project under the guidance of internal teacher. Project report will be evaluated by the internal teacher out of 20 marks and there will be viva-voce examination for 80 marks.(Documentation – 20 Marks, Online Presentation-- 30 Marks, Viva-Voce -- 30 Marks.) The panel for viva-voce examination will be appointed by university. The student should prepare the project report on the work carried out as a project in semester VI.

Guidelines for Project:

Number of Copies: The student should submit two Hard-bound copies of the Project Report.

Acceptance/Rejection of Project Report:

The student must submit an outline of the project report to the college for approval. The college holds the right to accept the project or suggest modifications for resubmission. Only on acceptance of draft project report, the student should make the final copies.

Format of the Project Report:

The student must adhere strictly to the following format for the submission of the Project Report.

a. Paper:

The Report shall be typed on white paper, A4 size, for the final submission. The Report to be submitted to the must be original and subsequent copies may be photocopied on any paper.

b. Typing:

The typing shall be of standard letter size, 1.5 spaced and on one side of the paper only. (Normal text should have Arial Font size 11 or 12. Headings can have bigger size)

c. Margins:

The typing must be done in the following margins:

Left -----1.5 inch, Right 1 inch

Top ----- 1 inch, Bottom 1 inch

d. Front Cover:

The front cover should contain the following details:

TOP : The title in block capitals of 6mm to 15mm letters.

CENTRE: Full name in block capitals of 6mm to 10mm letters.

BOTTOM: Name of the University, Course, Year of submission -all in block capitals of 6mm to 10mm letters on separate lines with proper spacing and centering.

f. Blank Sheets:

At the beginning and end of the report, two white black bound papers should be provided, one for the purpose of binding and other to be left blank.

Documentation Format

a) Cover Page
b) Institute/College Recommendation
c) Guide Certificate
d) Declaration
e) Acknowledgement
f) Index
g) Chapter Scheme

1) Introduction to Project
   - -Introduction
   - -Existing System
   - -Need and scope of Computer System
   - -Organization Profile
2) Proposed System -
   - Objectives -
   - Requirement Engg.
   - • Requirement Gathering
   - • SRS
3) System Analysis
   - • DFD
   - • ERD
   - • UML(if applicable)
4) System Design
   - • Database Design
   - • Input Design
   - • Output Design
5) Implementation
   - - System Requirement
   - - Hardware
   - - Software
   - - Installation process
   - - User Guideline
6) Output(with valid Data)
   (Minimum 6 reports)
7) Conclusion and Suggestions
   - • Conclusion
   - • Limitations
   - • Suggestion

8) References:-

i) Books:-

ii) Journals:-

iii) Periodicals and Newspapers:-

iv) Web

v)Questioner/Schedule(if used)

vi)Source code(Include Main Logic source code)

Course Outcome Number	**Course Outcome**
CO1	. Understand the system analysis phase.
CO2	Understand the system design phase.
CO3	Understand the system coding phase.
CO4	Understand the system testing phase.
CO5	Understand the system implementation phase.
CO6	Understand the system maintenance phase

EQUIVALENCE IN ACCORDANCE WITH TITLES AND CONTENTS OF PAPERS-

B.C.A. Part- III Semester – V			
Old Papers		**New Papers**	
Paper No.	**Titles of the old Papers**	**Paper No.**	**Titles of the old Papers**
501	Software Engineering – II	504	RDBMS with Oracle
502	Computer Network	503	Computer Network
503	Unified Modeling Language	505	Visual Programming
504	Internet Programming	502	E-Commerce
505	Enterprise Resource Planning (ERP)	501	Management Accounting
506	Lab Course VII (Based on Paper No. 504)	506	Lab Course based on 504 and 505
507	Mini Project	507	Mini Project
B.C.A. Part- III Semester – VI			
Old Papers		**New Papers**	
Paper No.	**Titles of the old Papers**	**Paper No.**	**Titles of the New Papers**
601	Linux	603	Linux Operating System
602	Data Warehousing & Data mining	602	Data Mining and Data Warehousing
603	Java Programming	604	Java Programming
604	Management Support System	601	Strategic Management
605	Lab Course VIII (Based on Paper No. 601)	605	Lab Course based on Paper no.- 603
606	Lab Course IX (Based on Paper No. 603)	606	Lab Course based on Paper no. 604
607	Major Project	607	Major Project