

Anekant Education Society's
Tuljaram Chaturchand College of Arts, Science and Commerce, Baramati
SYLLABUS STRUCTURE OF
Bachelor of Business Administration (Computer Application)
FYBBA(C.A) (2019pattern)
Syllabus (CBCS Pattern) under Academic Autonomy for the year 2019-2020

Semester – II (w. e. f. A.Y. 2019-2020)

Subject Code	Name of Subject	Marks			Credit
		Int.	Ext.	Total	
BCA1201	Object Oriented Programming using C++	40	60	100	3
BCA1202	Database Management System	40	60	100	3
BCA1203	Software Engineering	40	60	100	3
BCA1204	Technical Report Writing	40	60	100	3
BCA1205	Business Commerce	40	60	100	3
BCA1206	Practical Lab-II [Based on Paper 1201 ,1202]	40	60	100	3
	Certificate Course	-	-	-	2
Total		300	300	600	20

BBA (C.A) Programme Outcome

PSO1. Knowledge: To understand and apply the fundamental principles, concepts, and methods in diverse areas of computer science, computer applications, management, mathematics, statistics, etc.

PSO2. Problem Analysis: Identify, analyse and formulate complex real-life computing problems. Attain substantiated conclusions to solve the problems using fundamental principles of computer science and application domains by using various tools and emerging technologies.

PSO3. Design and Development: Design and develop efficient solutions for complex real-world computing problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety and the cultural, societal, and environmental considerations.

PSO4. Conduct investigations of complex problems: Ability to research, analyze and Investigate complex computing problems through the design of experiments, analysis, and interpretation of data, and synthesis of the information to arrive at valid conclusions.

PSO5. Modern Tool Usage: Create, identify and apply appropriate techniques, skills, and modern computing tools to computing activities.

PSO6. Ethics and Social Responsibility: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practices.

PSO7. Individual and Team Work: Ability to work effectively as an individual, and as a member or leader as per need in, multidisciplinary teams.

PSO8. Life-Long Learning: Recognize the need and have the ability to engage in independent continuous reflective learning in the context of technological advancement.

PSO9. Project Management: Understand and apply computing, management principles to manage projects.

PSO10. Communication: Able to use interpersonal skills and communicate effectively with the professionals and with society to convey technical information effectively and accurately and able to comprehend and write effective reports, design documentation, and make effective presentations.

PSO11. Innovation, employability, and Entrepreneurial skills:

Identify opportunities, and pursue those opportunities to create value and wealth for the betterment of the individual and society at large.

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1201

Paper: - I

Title of Paper: Object Oriented Programming using C++

Credit: 3

No. of. Lectures: 48

A) Course Objectives:

1. To introduces Object Oriented Programming concepts using the C++ language.
2. To learn the syntax and semantics of the C++ programming language.
3. To understand the principles of data abstraction, inheritance and polymorphism
4. To introduces the principles of virtual functions and polymorphism
5. To introduces handling formatted I/O and unformatted I/O
6. To understand the concept of data abstraction and encapsulation.
7. To introduces exception handling

B) Course Outcome:

Student will able to-

- CO1. Explain the basic concepts of object oriented programming language and their representation.
- CO2. Illustrate dynamic memory allocation functions, access specifiers and the friend functions.
- CO3. Demonstrate the use of constructors, destructors and also the behavior of inheritance and its implementation.
- CO4. Implement polymorphism and overloading of operators.
- CO5. Apply the I/O operations to handle backup system using files and to develop general purpose templates.
- CO6. Handle raised exception while implementing various object oriented concepts.
- CO7. Develop an application using the concepts of OOPS and associated concepts for complex problem.

Topics/Contents

Unit 1: Introduction to C++

(02L)

- 1.1 Basic concepts of OOP, benefits, applications of OOP
- 1.2 A simple C++ program
- 1.3 Structure of C++ program
- 1.4 Creating a source file, compiling and Linking

Unit2

Tokens, Expressions and Control structures

(03L)

- 2.1 Introduction
- 2.2 Tokens, keywords, Identifiers and constants
- 2.3 Data types-Basic, User defined and Derived

- 2.4 Symbolic constant
- 2.5 Type Compatibility
- 2.6 Variables-Declaration and Dynamic initialization
- 2.7 Reference variable
- 2.8 Operators in C++
 - 2.8.1 Scope resolution operator
 - 2.8.2 Member Referencing operators
 - 2.8.3 Memory management operators
 - 2.8.4 Manipulators
 - 2.8.5 Type cast operators
- 2.9 Expression and their types
- 2.10 Special Assignment Expressions
- 2.11 Implicit conversions
- 2.12 Operator overloading introduction
- 2.13 Operator precedence

Unit 3: Functions in C++

(05L)

- 3.1 Introduction
- 3.2 The main function
- 3.3 Function prototyping
- 3.4 Call by reference
- 3.5 Return by reference
- 3.6 Inline function–Making an outside function Inline
- 3.7 Arguments-default, constant
- 3.8 Math library functions

Unit 4: Classes and Objects

(10L)

- 4.1 Introduction
- 4.2 Creating a class and objects
- 4.3 Defining member functions inside and outside class definition
- 4.4 Nesting of member functions
- 4.5 Private member functions
- 4.6 Arrays within a class
- 4.7 Memory allocation of objects
- 4.8 Static data members and static member functions
- 4.9 Array of objects
- 4.10 Objects as function arguments
- 4.11 Friend functions
- 4.12 Returning objects
- 4.13 Constructors
- 4.14 Types of constructor
- 4.15 Destructors

Unit 5: Inheritance

(09L)

- 5.1 Introduction
- 5.2 Base class and derived class examples
- 5.3 Types of Inheritance
- 5.4 Virtual base class
- 5.5 Abstract class
- 5.6 Constructor in derived class

Unit 6: Polymorphism (08L)

6.1 Compile Time Polymorphism

6.1.1 Function overloading

6.1.2 Operator Overloading Introduction

6.1.3 Overloading unary and binary operator

6.1.4 Overloading using friend function

6.1.5 Overloading insertion and extraction operators

6.1.6 String manipulation using operator overloading

6.2 Runtime Polymorphism

6.2.1 this Pointer, pointers to objects, pointer to derived classes

6.2.2 Virtual functions and pure virtual functions

Unit 7: Managing console I/O operations (03L)

7.1 Introduction

7.2 C++ streams and C++ stream classes

7.3 Unformatted I/O operations

7.4 Formatted console I/O operations

7.5 Managing output with manipulators

Unit 8: Working with Files (05L)

8.1 Classes for File Stream operations

8.2 File operations-Opening, Closing and updating

8.3 Error handling during File operations

8.4 Command Line arguments

Unit 9: Templates (03L)

9.1 Introduction

9.2 Class Templates

9.3 Function Templates

9.4 Exception Handling(Introduction)

Reference Books:

1. Object oriented programming with C++ -by EBalagurusamy
2. Object Oriented Programming with C++ by Robert Lafore
3. Object Oriented Programming in C++ by Dr. G.T.Thampi, Dr.S.S.Mantha, Dream Tech Press

Class: FYBBA (C.A) (Sem -II)

Subject: BBA (C.A)

Course: Object Oriented Programing using C++

Course Code: BCA1201

Weightage: 1= Weak or Low Relation, 2= Moderate or Partial Relation, 3= Strong or Direct Relation

Program Outcomes(PO)											
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3							2			
CO2	3							2			
CO3	3							2			
CO4	3		3					2			
CO5	3	3	3	2				2			
CO6	3	3	3	2				2			
CO7	3	3	3	2				2	2		3

All of the course outcomes (COs) contribute to the development of students' disciplinary knowledge in Computer Application.

PO1. Knowledge:

In CO1,CO2,CO3,CO4, CO5, CO6 and CO7 Strongly mapped as the student will able to get knowledge about OOPS concepts, illustrate dynamic memory allocation, access specifier and friend functions, student will be get knowledge of constructor, destructor and behavior of inheritance and implementation etc.

PO2. Problem Analysis:

CO5,CO6 and CO7 are strongly mapped as the student will able to analysis of problem by applying the I/O operations to handle backup system using files and to develop general purPOe template and student will be able to handle raised exception while implementing various object oriented concepts.

PO3. Design and Development:

In CO4, CO5, CO6 and CO7 are strongly mapped as student will able to develop a application using OOPs and associated concept to solve complex problems.

PO4. Conduct investigations of complex problems:

In CO5, CO6 and CO7 are moderately mapped as student will able to find the solution on I/O operations, exception handling and OOPs concepts related problems by conducting investigation.

PO8. Life-Long Learning:

In CO1,CO2,CO3,CO4, CO5, CO6 and CO7 moderately mapped as the student will able to get details of knowledge of all related to OOPs concepts which helps them for future purpose..

PO9. Project Management

CO7 moderately mapped as the students will be able to get the detailed about OOPs and associated concepts for complex problems to develop application.

PO11. Innovation, employability, and Entrepreneurial skills:

CO7 is strongly mapped as student will able to get the different opportunities in real world as he will get the need knowledge about Oops and associated concepts..

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1202

Paper: - II

Title of Paper: Database Management system

Credit: 3

No. of. Lectures: 48

A] Course Objectives:

1. To introduce fundamental concept, terminology and application of databases.
2. To teach design concepts and creation of relational databases.
3. To apply queries in relational algebra to retrieve data.
4. To apply queries in SQL to create, read, update and delete data in a database.
5. To apply the concepts of entity integrity constraint and referential integrity constraint (including definition of the concept of a foreign key).
6. To describe the normal forms (1NF, 2NF, 3NF, BCNF, and 4NF) of a relation.
7. To apply normalization to a relation to create a set of BCNF relations and de normalize a relational schema.

B] Course outcomes:

Student should be able to:

- CO1. Understand the fundamental concepts of database, relation, relational models and algebra, SQL, and normalization algorithms
- CO2. Construct an Entity-Relationship (E-R) model from specification and transform it to a relational model.
- CO3. Analyze the principle input and output parameters of DBMS as applicable to database manipulation strategies.
- CO4. Construct queries in SQL or relational Algebra to perform CRUD (Create Update, Retrieve and Delete) operations on database.
- CO5. Evaluate the correctness of the chosen normalization in terms of its effectiveness to solve a problem under investigation.
- CO6. Apply the principles of database transaction management, database recovery and security.
- CO7. Analyze the core terms, concepts, and tools of relational database management system.

B) Topics/Contents

Unit 1: Database Management System

(08L)

- 1.1 Introduction
- 1.2 Need of DBMS, Applications of DBMS, Advantages and Disadvantages of DBMS
- 1.3 Users, Views, Schema,
- 1.4 Structure of DBMS

1.5 Data Models

1.5.1 Object Based Logical Model

-Object Oriented Data Model, Entity Relationship
Data Model 1.5.2 Relational Model

1.6 ER diagrams, Extended features of ERD.

Unit 2: Relational Database Model and Design (10L)

2.1 Terms-Relation, Tuple, Attribute, Cardinality,
Degree of Relationship set, Domain

2.2 Keys -Super Key, Candidate Key, Primary
Key, Foreign Key, Constraints

2.3 Anomalies of un normalized database

2.4 Normalization

2.5 Normal Form -1NF, 2NF, 3NF, BCNF)

Unit 3: SQL (Structured Query Language) (10L)

3.1 Introduction

3.2 Basic Structure

3.3 DDL Commands

3.4 DML Commands

3.5 Simple Queries

3.6 Nested Queries

3.7 Aggregate Functions

Unit 4: Transaction processing and Concurrency

4.1 Concept of transaction processing, ACID properties, States of
(12L) transaction

4.2 Concurrency Execution,

4.3 Serializability and Recoverability

4.4 Locking Based Protocol-Locks, Granting of Locks and 2PL

4.5 Timestamp based protocols-Timestamp, timestamp ordering
Protocol, Thomas's Write Rule.

4.6 Deadlocks handling -Detection, Prevention and Recovery.

Unit 5: Recovery System (08L)

5.1 Failure Classification

5.1.1 Transaction Failure

5.1.2 System Crash

5.1.3 Disk Failure

5.2 Storage Structures

5.2.1 Storage Types

5.2.2 Data Access

5.3 Recovery & Atomicity

- 5.3.1 Log based Recovery
- 5.3.2 Deferred Database Modification
- 5.3.3 Immediate Database Modification
- 5.3.4 Checkpoints
- 5.4 Recovery with Concurrent Transaction
 - 5.4.1 Transaction Rollback
 - 5.4.2 Restart Recovery
- 5.5 Remote Backup System

Reference Books:

1. Database System Concepts by Henry korth and A. Silberschatz
2. SQL, PL/SQL the Programming Language Oracle: - Ivan Bayross, BPB Publication.
3. Database Systems Concepts, Designs and Application by Shio Kumar Singh, Pearson
4. Introduction to SQL by Reck F. van der Lans by Pearson
5. Modern Database Management by Jeffery A Hoffer, V.Ramesh, Heikki Topi , Pearson
6. Database Management Systems by Debabrata Sahoo, Tata Macgraw Hill

Class: FYBBA (C.A) (Sem -II)

Subject: BBA (C.A)

Course: Database Management System

Course Code: BCA1202

Weightage: 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

	Programme Outcomes (POs)										
Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11
CO 1	3							1			
CO 2	3										1
CO 3	3		3								1
CO 4	3	3	2	3			1				1
CO 5	3								2		
CO 6	3	3		3			1	1			1
CO 7	3	3	3	2			1				1

All of the course outcomes (COs) contribute to the development of students' disciplinary knowledge in Computer Application.

PO1. Knowledge:

In CO1 to CO7 strongly mapped as the student will develop and the deep understanding of basic concept in DBMS by using queries DDL, DML & other database concepts.

PO2. Problem Analysis:

CO4 CO6 CO7 contribute to the development of students' problem analysis, thinking and problem-solving skills. It is strongly mapped as the Students will apply their knowledge to evaluate real life problems using various DBMS commands.

PO3. Design and Development:

CO3 CO7 Strongly mapped as the students will be able to develop and implement database applications by using various commands of SQL such as DDL, DML and perform various database operations.

PO4. Conduct investigations of complex problems:

CO4 CO6 are strongly mapped as the students will be able to understand and apply the database concepts for developing database for solving real world applications which are based for storing data.

PO7.Individual and Team Work:

CO4 CO6 CO7 are partially mapped as the students will develop ability to work individuals and groups for while problem solving

PO8. Life-Long Learning:

CO1 and CO6 partially mapped as contribute to the development of students' ability to engage in life-long learning as all concepts in DBMS programming which helps to understand real life problems and manipulation and their implementation.

PO9.Project Management:

CO5 is strongly mapped as contribute to understand and apply principles of project management.

PSO11. Innovation, employability, and Entrepreneurial skills:

CO2 CO3 CO4 CO6 CO7 partially relate to employability skills as students are able to analyze and evaluate DBMS concepts for professional development.

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1203

Paper: - III

Title of Paper: Software Engineering Credit: 3

No. of. Lectures: 48

A) Course Objectives:

1. To understand the fundamentals of software Engineering for Practice & Process Models.
2. To make student familiar with different software life cycle models.
3. To provide an idea of using various process models in the software industry according to given circumstances by using SRS.
4. To provide system architects, software engineers, and software developers with tools for analysis, design, and implementation of software-based systems by using UML diagram.
5. To gain the knowledge of how Analysis, Design, Implementation, Testing and Maintenance processes are conducted in a software project.
6. To understand making of ERD,DFDs, I/O designs and SRS documents for the software development purpose.
7. To learn the concepts and methods required for construction of a large scale software system.

B) Course Outcomes:

Student should be able to:

- CO1.** Acquire the knowledge about fundamental concepts of software engineering, process models, modern engineering tools used in software development and few Software Testing techniques.
- CO2.** Decompose the given project in various phases of a lifecycle.
- CO3.** Analyze the suitability of chosen model using different UML diagrams for a given problem.
- CO4.** Perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance
- CO5.** Assess the errors in the designed model for free application using suitable testing techniques
- CO6.** Evaluate Software engineering concepts and skills in the real world problem scenario independently.
- CO7.** Apply the knowledge, techniques, and skills in the development of a software product

Topics/Contents

Unit 1: Introduction to System Concepts

(06L)

- 1.1 Definition, Elements of System
- 1.2 Characteristics of System
- 1.3 Types of System
- 1.4 System Concepts

Unit 2: Requirement Analysis (08L)

- 2.1 Definition of System Analysis
- 2.2 Requirement Anticipation
- 2.3 Knowledge and Qualities of System Analyst
- 2.4 Role of a System Analyst
- 2.5 Feasibility Study And It's Types
- 2.6 Fact Gathering Techniques
- 2.7 SRS(System Requirement Specification)

Unit 3: Introduction to Software Engineering (06L)

- 3.1 Definition Need for software Engineering
- 3.2 Software Characteristics
- 3.3 Software Qualities(McCall's Quality)

Unit 4: Software Development Methodologies (06L)

- 4.1 SDLC(System Development Life Cycle)
- 4.2 Waterfall Model
- 4.3 Spiral Model
- 4.4 Prototyping Model
- 4.5 RAD MODEL

Unit 5: Analysis and Design Tools (10L)

- 5.1 Entity-Relationship Diagrams
- 5.2 Decision Tree and Decision Table
- 5.3 Data Flow Diagrams(DFD)
- 5.4 Data Dictionary
 - 5.4.1 Elements of DD
 - 5.4.2 Advantage of DD
- 5.5 Pseudo code
- 5.6 Input And Output Design
- 5.7 Case Studies(Based on Above Topic)

Unit 6: Use-Case Driven Object Oriented Analysis (12L)

- 6.1. Introduction to oops concepts
 - 6.1.1. Class and object
 - 6.1.2. Abstraction and encapsulation
 - 6.1.3. Method and messages
 - 6.1.4. Interface, Inheritance and polymorphism
 - 6.1.5. Structural Diagram - Class Diagram and Object diagram
 - 6.1.6. Associations and links
 - 6.1.7. Aggregation , Composition and Generalization
 - 6.1.8. Inheritance, Sub Types and IS-A hierarchy
- 6.2. Behavioral Diagram
 - 6.2.1. Use case Diagram
 - 6.2.1.1. Identify Actors

- 6.2.1.2. Identify Use cases: describing how the user will use the system
- 6.2.1.3. Develop Use-Case Model
- 6.2.1.4. Description of Use case Diagram.
- 6.2.2. Activity Diagram
- 6.2.3. Sequence diagram
- 6.2.4. Collaboration Diagram.
- 6.2.5. Component Diagram
- 6.2.6. Deployment Diagram
- 6.2.7. State Transition Diagram Case studies should be covered on the above topic

Reference Books:

1. Software Engineering-Rogers. Pressman.
2. SADSE (System Analysis Design)-Prof. Khalkar and Prof. Parthasarathy.

Class: F.Y.BBA (C.A.) (Semester - II)

Subject: BBA(C.A)

Course: Software Engineering

Course Code:BCA1203

Weightage: 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

Course Outcomes	Programme Outcomes (POs)										
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11
CO 1	3										
CO 2	3						1				1
CO 3	3							1			
CO 4	3			2			1	2			
CO 5	3	2		2				2			
CO 6	3		2								1
CO 7	3		2				1				1

All of the course outcomes (COs) contribute to the development of students' disciplinary knowledge in Computer Application.

PO1. Knowledge:

In CO1 to CO7 strongly mapped as the student will deep understanding of different concepts of software engineering SDLC, system flow diagrams & other concepts.

PO2. Problem Analysis:

CO5 moderately mapped as contribute to the development of students' problem analysis, thinking and problem-solving skills. Students understand and solve real life problems by using SDLC of software engineering.

PO3. Design and Development:

CO6 CO7 are moderately mapped as the students will be able to use software engineering concept for development of software applications like SDLC, Software Model, Design tools, software testing methods.

PO4. Conduct investigations of complex problems:

CO4 CO5 are partially mapped as the students will be able to understand and apply programming skills for solving various real life problems with the help of software development methods.

PO7. Individual and Team Work:

CO2 CO4 CO7 are partially mapped as the students will develop ability to work individuals and groups for while problem solving.

PO8. Life-Long Learning:

CO3 CO4 and CO5 partially mapped as contribute to the development of students' ability to engage in life-long learning as all software development concepts to understand real life problems manipulation and which help for software development and testing

PSO11. Innovation, employability, and Entrepreneurial skills:

CO2 CO6 CO7 partially relate to employability skills as students are able to analyze and evaluate software development concepts for professional development.

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1204

Paper: - IV

Title of Paper: Technical Report Writing Credit: 3

No. of. Lectures: 48

A) Course Objectives:

1. Write more efficiently
2. Write clearly and in the correct style for your readers.
3. Use correct language and grammar.
4. Use layout, typography and illustrations to help get your message across.
5. Check & edit your own drafts.
6. Improve your style on three levels: paragraph, sentence, word
7. Make your reports easier to navigate.

B) Course Outcomes:

Student should be able to:

- CO1. Produce a documentation plan, including estimates and schedules
- CO2. Design and structure a document by analyzing the readership and selecting the right information
- CO3. Students will learn to write technical reports that serve the purpose of providing clearly understandable information for readers
- CO4. Students will also learn and apply easy writing techniques that will reduce their report writing time and will improve the quality of their writing.
- CO5. Participate actively in writing activities that model effective and technical communication in the workplace
- CO6. Develop professional work habits, including those necessary for effective collaboration and cooperation with other students, instructors, and service learning contact representatives.
- CO7. Identify the scope, need and purpose of various types of data.

Topics/Contents

Unit 1: Introduction To Technical Communication (03L)

- 1.1 Basics of Technical Communication
- 1.2 Components
- 1.3 Process

Unit 2: Elements of Style (06L)

- 2.1 Definition of Style
- 2.2 Choice of Words and Phrases

2.3 Sentence and Paragraphs Constructions and Length

Unit 3: Business and Technical Report (10L)

3.1 Characteristic

3.2 Importance

3.3 Types of Reports

3.3.1 Oral Report

3.3.2 Written Report-

3.3.2.1 Informal Report

3.3.2.2 Formal Report - Informational ,Interpretive, Routine Report

3.4 Routine Report

3.4.1 Progress Report

3.4.2 Laboratory Report

3.4.3 Inspection report

3.4.4 Inventory Report

3.4.5 Annual Confidential Report on Employee

Unit 4: Planning and Preparation (10L)

4.1 Preparatory Steps

4.2 Sources of Data

4.2.1 Internal Records

4.2.2 Library

4.2.3 Internet

4.3 Methods of Data Collection

4.3.1 Personal Observation

4.3.2 Telephone Interview

4.3.3 Personal Interview

4.3.4 Questionnaires

4.4 Mail Questionnaires

Unit 5: Structure and Layout

5.1 Element of Structure (08L)

5.1.1 Front Matter

5.1.2 Main Body

5.1.3 Back Matter

Unit 6: Use of Illustrations (06L)

6.1 Purpose

6.2 Characteristics of Good Illustrations

6.2 Types

6.3.1 Tables

6.3.2 Graphs

6.3.3 Drawings

Unit 7: Report Writing (05L)

7.1 Rough Draft

7.2 Process of Writing

7.3 Order of Writing

7.4 The Final Draft

7.5 Check-List for Reports

7.6 Communication Core

Reference Books:

1. Business Correspondence and Report Writing, 4e - by R C Sharma Krishna Mohan
Handbook of Technical)
2. Technical communication_ principles and practice - by Raman, Meenakshi and Sangeeta Sharma

Class: F.Y.BBA (C.A.) (Semester - II)

Subject::BBA(C.A)

Course: Technical Report Writing

Course code : BCA1204

Weightage: 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

	Programme Outcomes (POs)										
Course Outcomes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO 8	PO 9	PO 10	PO 11
CO 1	3									2	
CO 2	3		2				1			2	
CO 3	3							1		3	1
CO 4	3						1	1		3	1
CO 5	3	2					1			2	
CO 6	3		2							3	
CO 7	3	2					1	1		2	1

All of the course outcomes (COs) contribute to the development of students' disciplinary knowledge in Management

PO1. Knowledge:

In CO1 to CO7 strongly mapped as the student will deep understanding of different concepts of technical report writing for business with help of various methods of presentation and report writing concepts.

PO2. Problem Analysis:

CO5 CO7 moderately mapped as contribute to the development of students' problem analysis, thinking and problem-solving skills. Students understand and solve real life problems by how to use appropriate methods of effective communication and analyzing the data.

PO3. Design and Development:

CO2 CO6 are moderately mapped as the students will be able to use communication & writing equipment and tools for writing and present good technical reports for business.

PO7. Individual and Team Work:

CO2 CO4 CO5 CO7 are partially mapped as the students will develop ability to work individuals and groups for while problem solving.

PO8. Life-Long Learning:

CO3 CO4 and CO7 partially mapped as contribute to the development of students' ability to engage in life-long learning as Business operations concepts of communication, documentation & writing reports concepts to understand real life problems.

PO10. Communication:

All CO1 to CO7 are moderately and strongly mapped as students will develop interpersonal skills and communicate effectively and write effective reports and design documentation with working areas.

PO11. Innovation, employability, and Entrepreneurial skills:

CO4 CO6 CO7 partially relate to employability skills as students are able to analyze and write effective reports and design documentation with working areas for professional development

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1205

Paper: - V

Title of Paper: Business Commerce

Credit: 3

No. of. Lectures: 48

A) Course Objectives:

1. To understand key business concepts and strategies applicable to business commerce.
2. To understand the impact of business commerce applications.
3. To get information about mechanism of business transaction through electronic media.
4. To understand payment transaction in secured network.
5. To make a use of different modes of E-Commerce like Electronic data interchange.
6. To learn Web site establishment, electronic publishing and its importance.

B) Course outcomes:

Student should be able to:

- CO1.** Gain an understanding on how innovative use of the Business Commerce can help developing competitive advantages.
- CO2.** Understand the basics of E-commerce, current and emerging business models.
- CO3.** Familiarize with basic business operations such as sales, marketing, HR etc. on the web.
- CO4.** Enhance the students' skills for designing and developing website.
- CO5.** Identify the emerging modes of e-payment.
- CO6.** Understand the importance of security, privacy, ethical and legal issues of e-commerce.
- CO7.** Understand the implementation of Electronic Data Interchange (EID) in day to day life.

Topics/Contents

Unit 1: Introduction to Electronic Commerce

(07)

- 1.1 E-Commerce(Introduction and Definition)
- 1.2 Main activities E-Commerce
- 1.3 Goals of E-Commerce
- 1.4 Technical Components of E-commerce

- 1.5 Functions of E-commerce
- 1.6 Advantages and Disadvantages of E-commerce
- 1.7 Scope of E-Commerce
- 1.8 Electronic Commerce Applications
- 1.9 Electronic Commerce and Electronic Business
(C2C)(2G , G2G , B2G , B2P,B2A,P2P,B2A,C2A,B2B,B2C)

Unit 2: Building own website (06L)

- 2.1 Reasons for building own website
- 2.2 Benefits of web site
- 2.3 Bandwidth requirements
- 2.4 Cost, Time , Reach
- 2.5 Registering Domain Name
- 2.6 Web promotion
- 2.7 Target email, Banner Exchange , Shopping Bots

Unit 3: Internet and Extranet (07L)

- 3.1 Definition of Internet
- 3.2 Advantages and Disadvantage of the Internet
- 3.3 Component of a Intranet Information technology structure
- 3.4 Development of a Intranet
- 3.5 Extranet and Intranet Difference
- 3.6 Role of Intranet in B2B Application

Unit 4: Electronic payment System (08L)

- 4.1 Introduction
- 4.2 Types of Electronic payment system
- 4.3 Payment types
- 4.4 Traditional payment
- 4.5 Value exchange system
- 4.6 Credit card system
- 4.7 Electronic funds transfer
- 4.8 Paperless bill
- 4.9 Modern payment cash
- 4.10 Electronic cash

Unit 5: Technology Solution (07L)

- 5.1 Protecting Internet Communications
- 5.2 Encryption
- 5.3 Symmetric Key Encryption
- 5.4 Public key Encryption
- 5.5 Digital Envelopes
- 5.6 Digital Certificates

Unit 6: Security and Security issues in e-commerce: (07L)

- 6.1 Security risk of e-commerce
- 6.2 Type and Sources of Threats
- 6.3 Phishing and Identity Theft
- 6.4 Spoofing
- 6.5 Hacking
- 6.6 Protecting the Electronic Commerce Assets
- 6.7 Client Server Network Security
- 6.8 Data and Message Security
- 6.9 Digital Identification

Unit 7: Internet Marketing

(06L)

- 7.1 The PROS and CONS of online shopping
- 7.2 The cons of online shopping
- 7.3 Justify an Internet business
- 7.4 Internet marketing techniques
- 7.5 The E-cycle of Internet marketing
- 7.6 Personalization e-commerce

Reference Books

1. E-Commerce-Kenneth C. Laudon and Carol Guercio Traver
2. E-Commerce by --Kamlesh KBajajand Debjani Nag
3. Internet marketing and E-commerce-Ward Hansonand Kirthi Kalyanam
4. E-Commerce Concepts ,Models , Strategies by--G.S. VMurthy
5. Electronic Commerce by--GaryP. Schneider

Class: FYBBA (C.A) (Sem -II)

Subject: BBA (C.A)

Course: Business Commerce

Course Code: BCA1205

Weightage: 1= Weak or Low Relation, 2= Moderate or Partial Relation, 3= Strong or Direct Relation

Program Outcomes(PO)											
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3					2		2			
CO2	3					2		2			
CO3	3					2		2			
CO4	3					2		2			
CO5	3					2		2			
CO6	3					2		2			
CO7	3				2	2		2			2

All of the course outcomes (COs) contribute to the development of students' disciplinary knowledge in Computer Application.

PO1. Knowledge:

In CO1,CO2,CO3,CO4, CO5, CO6 and CO7 Strongly mapped as the student will able to get knowledge E-Commerce, marketing skills ,online business,e-payment etc.

PO5 : Modern Tool Usage

CO7 is moderately mapped as students will able to get the use of modern tools for e-payment, EID etc.

PO6 : Ethics and Social Responsibility

In CO1,CO2,CO3,CO4, CO5, CO6 and CO7 moderately mapped as the student will able to pay his responsibility toward the society by making use of e-commerce concept.

PO8. Life-Long Learning:

In CO1,CO2,CO3, CO4, CO5, CO6 and CO7 moderately mapped as the student will able to get life long learning of e-commerce term.

PO11. Innovation, employability, and Entrepreneurial skills:

CO7 is moderately mapped as student will able to get the different opportunities in real world as he will get the need knowledge about E-commerce concepts.

SYLLABUS (CBCS) FOR F.Y.BBA (C.A.) (w. e. from June, 2019)

Academic Year 2019-2020

Class: F.Y.BBA (C.A.) (Semester - II)

Paper Code: BCA1206

Paper: -VI

Title of Paper: Practical Lab- II

Credit: 3

No. of. Lectures: 48

A] Course Objective:

1. To strengthen problem solving ability by using the characteristics of an object-oriented approach.
2. To design applications using object oriented features and to handle Exceptions in programs.
3. To teach the student to implement object oriented concepts.
4. To practice the concepts learnt in the subject DBMS by developing a database.
5. To practice the designing, developing and querying a database.
6. To make aware of using “Mysql/Oracle” database.
7. To understand view,cursor,trigger etc.

B]Course Outcome:

- CO1. Implement object oriented concepts such as objects, class abstraction and message passing.
- CO2. Implement the friend function and function overloading ,Operator overloading, Inheritance and method overriding.
- CO3. Implement virtual function to achieve Run time polymorphism, various functions on String and I/O operation to handle file system.
- CO4. illustrate the basic DDL commands, DCL and DML commands.
- CO5. Demonstrate SQL queries using SQL operators and Explain the concept of relational algebra.
- CO6. Implement various queries using date and group functions and elaborate nested queries.
- CO7. Construct views, cursor and triggers.

OOP'S using C++

1. Write a C++ program to create a class Worker with data members as Worker_Name, No_of_Hours_worked, Pay_Rate. Write necessary member functions to calculate and display the salary of worker. (Use default value for Pay_Rate)

2. Create class Person which contains data member as Passport_Id, Person_name, Nationality, Gender, Date_of_Birth, Date_of_Issue, Date_of_expiry .
3. Write a c++ program to perform following member functions:
 - i. Enter details of all persons
 - ii. Display passport details of one person
 - iii. Display passport details of all persons(Use Function overloading and Array of object).
4. Write a C++ program using class which contains two data members of type integer. Create and initialize the object using default constructor, parameterized constructor and parameterized constructor with default value. Write a member function to display maximum from given two numbers for all objects.
5. Create a class ComplexNumber containing members as:
 - real
 - imaginary

Write a C++ program to calculate and display the sum of two complex numbers. (Use friend function and return by object)

6. Write a C++ program to create a class Date which contains three data members as dd, mm, yyyy. Create and initialize the object by using parameterized constructor and display date in dd- mon- yyyy format. (Input: 19-12-2014 Output: 19-Dec-2014) Perform validation for month.
7. Create a base class Account (Acc_Holder_Name, Acc_Holder_Contact_No). Derive a two classes as Saving_Account(S_Acc_No., Balance) and Current_Account(C_Acc_No., Balance) from Account. Write a C++ menu driven program to perform following functions :
 - i. Accept the details for 'n' account holders.
 - ii. Display the details of 'n' account holders by adding interest amount where interest rate for Saving account is 5% of balance and interest rate for Current account is 1.5% of balance.
8. Write a C++ program to create a class Item with data members Item_Code, Item_Name, Item_Price. Write member functions to accept and display Item information also display number of objects created for a class. (Use Static data member and Static member function)
9. Write C++ program to Create two classes Array1 and Array2 which contains data members as Integer array of a specified size. Write necessary member functions to accept and display array elements of both the classes. Find and

display smallest number from both the array. (Use Friend function and Memory Management operators)

10. Write a C++ program to create a class which contains two dimensional integer array of size mXn. Write a member function to display sum of all elements of entered matrix. (Use Dynamic Constructor for allocating memory and Destructor to free memory of an object)
11. Create a class Time which contains data members as: Hours, Minutes and Seconds. Write C++ program to perform following necessary member functions:
 - i. To read time
 - ii. To display time in format like: hh:mm:ss
To add two different times (Use Objects as argument)
12. Write a C++ program to create a class Employee which contains data members as Emp_Id, Emp_Name, Basic_Salary, HRA, DA, Gross_Salary. Write member functions to accept Employee information. Calculate and display Gross salary of an employee. (DA=12% of Basic salary and HRA = 30% of Basic salary) (Use appropriate manipulators to display employee information in given format :- Emp_Id and Emp_Name should be left justified and Basic_Salary, HRA, DA, Gross salary Right justified with a precision of two digits)
13. Create a class Date containing members as:
 - dd
 - mm
 - yyyyWrite a C++ program for overloading operators >> and << to accept and display a Date also

write a member function to validate a date.
14. Create two base classes Learning_Info(Roll_No, Stud_Name, Class, Percentage) and Earning_Info(No_of_hours_worked, Charges_per_hour). Derive a class Earn_Learn_info from above two classes. Write necessary member functions to accept and display Student information.

Calculate total money earned by the student. (Use constructor in derived class)
15. Write a C++ program to read two float numbers. Perform arithmetic binary operations like +, -, *, / on these numbers using Inline Function. Display resultant value with a precision of two digits.
16. Create a class MyString which contains a character pointer (using new operator). Write a C++ program to overload following operators:
 - > to compare length of two strings ! to check equality of two strings
 - + to concatenate two strings

17. Write a C++ program to calculate area of cone, sphere and circle by using function overloading.
18. Create a base class Shape. Derive three different classes Circle, Rectangle and Triangle from Shape class. Write a C++ program to calculate area of Circle, Rectangle and Triangle. (Use pure virtual function).
19. Write a C++ program to create a class which contains two data members. Write member functions to accept display and swap two entered numbers using call by reference.
20. Write a C++ program to accept 'n' numbers from user through Command Line Argument. Store all positive and negative numbers in two different arrays. Display contents both arrays.
21. Write a C++ program to create a class Integer. Write necessary member functions to overload the operator unary pre and post increment '++' for an integer number.
22. Write a C++ program to read the contents of a text file. Count and display number of characters, words and lines from a file. Find the number of occurrences of a given word present in a file.
23. Write a C++ program to calculate maximum of two integer numbers of two different classes using friend function.
24. Write a C++ program to swap two integer values and two float values by using function template.
25. Create a C++ class Sumdata to perform following functions:
 - int sum(int, int) – returns the addition of two integer arguments.
 - float sum(float, float, float) – returns the addition of three float arguments. int
 - sum(int [] ,int) – returns the sum of all elements in an array of size 'n'.

Database Management System and RDBMS

- 1) Consider the following
Entities and Relationships
Customer (cust_no,
 cust_name, address, city)

Loan (loan_no, loan_amt)

Relation between Customer and Loan is **Many to**

Many Constraint: Primary key,

loan_amt should be > 0. **Create a Database**

in 3NF & write queries for following.

- Find details of all customers whose loan is greater than 10 lakhs.
- List all customers whose name starts with 'ba'.
- List names of all customers in descending order who has taken a loan in Nasik city. Display customer details having maximum loan amount.
- Calculate total of all loan amount.

2) **Consider the following Entities and**

Relationships Book (Book_no, title, author, price, year_published) **Customer** (cid, cname, addr)

Relation between Book and Customer is **Many to Many** with quantity as descriptive attribute. **Constraint:** Primary key, price should be >0.

Create a Database in 3NF & write queries for following.

- Display customer details from 'Mumbai'.
- Display author wise details of book.
- Display all customers who have purchased the books published in the year 2013.
- Display customer name that has purchased more than 3 books.
- Display book names having price between 100 and 200 and published in the year 2013.

3) **Consider the following Entities and**

Relationships Department (dept_no, dept_name, location)

Employee (emp_no, emp_name, address, salary, designation) Relation between

Department and Employee is **One to Many**

Constraint: Primary key, salary should be > 0 .

Create a Database in 3NF & write queries for following.

- Find total salary of all computer department employees.
- Find the name of department whose salary is above 10000. Count the number of employees in each department.
- Display the maximum salary of each department.
- Display department wise employee list.

4) **Consider the following**

Entities and

Relationships Property

(pno, desc, area, rate)

Owner (owner_name, addr, phno)

Relation between owner and

Property is **One to Many**.

Constraint: Primary key, rate should be > 0

Create a Database in 3NF & write queries for following.

- Display area wise property details.
- Display property owned by 'Mr.Patil' having minimum rate.
- Display all properties with owner name that having highest rate of properties located in

Chinchwad area.

- Display owner wise property detail.
- Display owner name having maximum no. of properties.

5) **Consider the following Entities and**

Relationships Bus (bus_no, capacity, depot_no)

Route (rout_no, source, destination, no_of_stations)

Relation between Bus and Route is **Many to One**.

Constraint: Primary key.

Create a Database in 3NF & write queries for following.

- Find out the route details on which buses whose capacity is 20 runs. Display number of stations from 'Chinchwad' to 'Katraj'.
- Display the route on which more than 3 buses runs.
- Display number of buses of route 'Swargate' to 'Hadapsar'.
- Find the bus having maximum capacity from 'Nigadi' to 'Kothrud'..

6) Consider the following Entities and

Relationships Person (pno,

person_name, birthdate, income)

Area (area_name, area_type)

Relation between Person and area is **Many to One**.

Constraint: Primary key, income should be > 0 , area_type should be rural or urban. **Create a Database in 3NF & write queries for following.**

- Display persons having income less than 1 lakhs in PCMC Area.
- Display population of each area.
- Display person's details from 'Urban' area.
- Display the details of area having population greater than that of in Pune. Display details of person from each area having minimum income.

7) Consider the following Entities and

Relationships Room (roomno, desc, rate)

Guest (gno, gname, no_of_days)

Relation between Room and Guest

is **One to One**. **Constraint:**

Primary key, no of days should be

> 0. **Create a Database in 3NF &**

write queries for following.

- Display room details according to its rates in ascending order.
- Find the names of guest who has allocated room for more than 3 days. Find no. of AC rooms.
- Display total amount for NON-AC rooms.
- Find names of guest with maximum room charges.

8) **Consider the following**

Entities and Relationships

Branch (bname , bcity

,assets)

Loan (loan_no, amount)

Relation between Branch and Loan is **One to Many**.

Constraint: Primary key, amount and

assets should be > 0. **Create a Database**

in 3NF & write queries for following.

- Display total loan amount given by DYP branch.
- Find total number of loans given by each branch.
- Find the name of branch that have maximum assets located in Mumbai. Display loan details in descending order of their amount.
- Display all branches located in Mumbai, Pune and Nasik.

PL/SQL Practical

- 1) **Consider the following entities and their relationship. Customer**

(c_no, c_name, c_city,
c_ph_no)

Ticket (t_no, booking_date, fare,
traveling_date) **Relationship between**

Customer and Ticket is one-to-many.

Constraints: primary key, foreign key

c_name should not be null,

fare should be greater than zero.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure to display names of customer who have booked bus on given date.
- Write a trigger that restricts insertion of ticket having traveling date smaller than booking date.(Raise user defined exception and give appropriate message)

2) **Consider the following entities and their relationship. Student**

(s_reg_no, s_name, s_class)

Competition (comp_no,
comp_name, comp_type)

Relationship between Student and Competition is many-to-many with descriptive attribute rank and year.

Constraints: primary key, foreign key,

primary key for third
table(s_reg_no, comp_no, year),
s_name and comp_name should
not be null, comp_type can be
sports or academic.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a function which will accept s_reg_no of student and returns total number of competition in which student has participated in a given year.
- Write a cursor which will display year wise details of competitions held. (Use parameterized cursor)

3) **Consider the following entities and their relationship. Owner** (o_no,
o_name, o_city, o_ph_no)

Estate (e_no, e_type, e_city, e_price)

Relationship between Owner and Estate is one-to-many.

Constraints: primary key, foreign key,

o_name should not be null,

e_type can be flat, bungalow or land

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will accept owner number and display details of all estates of given owner which belongs to pune city.
- Write a cursor which will display type wise estate details. (Use parameterized cursor)

4) **Consider the following entities and their relationship.**

Drug(d_no, d_name, company, price)

Medical_store(m_no, m_name, m_city, ph_no)

Relationship between Drug and Medical_Store is many-to-many with descriptive attribute quantity.

Constraints: primary key, foreign key,

m_name and d_name
should not be null,
m_city can be pune or
pimpri.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a package, which consists of one procedure and one function. Pass drug number as a parameter to procedure and display details of that drug. Pass city as a parameter to a function and return total number of medical_store in given city.
- Write a trigger that restricts insertion and updation of drug having price less than zero. (Raise user defined exception and give appropriate message)

5) **Consider the following entities and their relationship.**

Route(route_no, source,
destination, no_of_station) **Bus**
(bus_no, capacity, depot_name)

Relationship between Route and Bus is one-to-

many Constraints: primary
key, foreign key, depot_name
should not be null,

bus capacity should be greater than 40.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display all bus details for a given route.
- Write a trigger that restricts insertion of route having number of station less than zero. (Raise user defined exception and give appropriate message)

- 6) **Consider the following entities and their relationship. University**
(u_no, u_name, u_city)

College (c_no, c_name, c_city,

year_of_establishment) **Relationship**

between University and College is

one-to-

many Constraints: primary
key, foreign key, u_name and
c_name should not be null.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a package, which consists of one procedure and one function. Pass university number as a parameter to procedure and display details of that university. Pass city as a parameter to a function and return total number of colleges in given city.
- Write a cursor which will display university wise their college details.
(Use parameterized cursor)

- 7) **Consider the following entities and their relationship. Patient**
(p_no, p_name, p_addr) **Doctor**
(d_no, d_name, d_addr, city)

Relationship between Patient and Doctor is many-to-many with descriptive attribute disease and no_of_visits.

Constraints: primary key, foreign key,

Primary key for third
table(p_no, d_no, disease),
p_name and d_name should not
be null.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display patient detail who has visited more than 3 times to the given doctor for 'Diabetes'.
- Write a trigger which will restrict insertion or updation of doctor_patient details having no_of_visits less than zero. (Raise user defined exception and give appropriate message)

8) **Consider the following entities and their relationship. Crop** (c_no, c_name, c_season, pesticides)

Farmer (f_no, f_name, f_location)

Relationship between Crop and Farmer is many-to-many with descriptive attribute year.

Constraints: primary key, foreign key,

primary key for third
table(c_no, f_no, year),
c_name and f_name should
not be null, c_season can be
rabi or kharif.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a function which will return total number of farmers harvesting given crop in a given year.
- Write a cursor which will display season wise information of crops harvested by the farmers. (Use parameterized cursor)

9) **Consider the following entities and their relationship. Researcher** (r_no, r_name, r_city) **Research_Paper** (rp_no, rp_title, rp_subject, rp_level)

Relationship between Researcher and Research_Paper is many-to-many with descriptive attribute year.

Constraints: primary key, foreign key,

r_name and rp_title should not be null,

rp_subject can be computer, electronics or finance.

rp_level can be state, national or international.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display details of research paper of a given subject for a specified year.
- Write a trigger before insert or update of each row of research_paper published after 2010 be entered into table. (Raise user defined exception and give appropriate message)

10) **Consider the following**

entities and their

relationship. Client (c_no,

c_name, c_addr,

birth_date)

Policy_info (p_no, p_name, maturity_amt, prem_amt, policy_term)

Relationship between Client and Policy_info is many-to-many with descriptive attribute date_of_purchase.

Constraints: primary key, foreign key,

c_name and p_name
should not be null,
policy_term should be
greater than zero.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display all policy details of given client for a given year.
- Write a trigger which restricts insertion of policy_info having maturity amount less than premium amount. (Raise user defined exception and give appropriate message)

11) **Consider the following entities and their relationship.**

Customer (c_no, c_name,
c_city, c_ph_no) **Ticket** (t_no,
booking_date, fare,
traveling_date)

Relationship between Customer and Ticket is one-to-

many. Constraints: primary key, foreign key,

c_name should not be null,

fare should be greater than zero.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a function which will calculate and return total fare collected from customers on given date.
- Write a cursor which will display date wise ticket booked by customer. (Use parameterized cursor)

12) **Consider the following entities**

and their relationship.

Company (c_no, c_name, c_city,

c_share_value)

Person (p_no, p_name, p_city, p_ph_no)

Relationship between Company and Person is many-to-many with descriptive attribute no_of_shares.

Constraints: primary key, foreign key,

c_name and p_name
should not be null,
no_of_shares should be
greater than zero.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display names of person who are shareholder of the given company.
- Write a trigger which get activated when share value of company become less than Rs. 10. (Raise user defined exception and give appropriate message)

13) **Consider the following entities and their**

relationship. Donor (donor_no, donor_name, city)

Blood_donation_detail (bd_no, blood_group, qty,
date_of_collection)

Relationship between Donor and Blood_donation_detail is one-to-many. Constraints: primary key, foreign key, donor_name should not be null,

blood_group can be A+, A-, B+, B-, AB+,

AB-, O+, O- **Create a RDB in 3NF and write PL/SQL**

blocks in Oracle for the following:

- Write a procedure which will display blood group wise total amount of quantity of blood available.
- Write a trigger that restricts insertion of blood_donation_details having quantity greater than 300ml. (Raise user defined exception and give appropriate message)

14) **Consider the following entities and their**

relationship. Train

(t_no, t_name)

Passenger (p_no, p_name, addr, age)

Relationship between Train and Passenger is many-to-many with descriptive attribute date, seat_no and amt.

Constraints: primary key, foreign key,

primary key for third table
(t_no, p_no, date), t_name
and p_name should not be
null,

amt should be greater than zero.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a function which will display train details having maximum passenger for a given date.
- Write a cursor which will display date wise train and their passenger details.

15) **Consider the following entities and their relationship. Person** (p_no,

p_name, p_addr) **Investment** (inv_no,
inv_name, inv_date, inv_amt)

Relationship between Person and Investment is one-to-

many. Constraints: primary key, foreign key,

p_name and inv_name
should not be null,
inv_amt should be
greater than 10000.

Create a RDB in 3NF and write PL/SQL blocks in Oracle for the following:

- Write a procedure which will display details of person, made investment on given date.
- Write a trigger that restricts insertion or updation of investment having inv_date greater than current date. (Raise user defined exception and give appropriate message)

Class: FYBBA (C.A) (Sem -II)
Course: Practical Lab-II

Subject: BBA (C.A)
Course Code: BCA1206

Weightage: 1= Weak or Low Relation, 2= Moderate or Partial Relation, 3= Strong or Direct Relation

Program Outcomes(PO)											
Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3						2				
CO2	3						2				
CO3	3	2	2				2				
CO4	3			2			2				
CO5	3						2				
CO6	3	2	2				2		2		
CO7	3	2	2	2			2		2		3

PO1. Knowledge:

In CO1,CO2,CO3,CO4, CO5, CO6 and CO7 Strongly mapped as the student will able to get knowledge about OOPS concepts, database related concept, SQL /PL SQL server etc..

PO2. Problem Analysis:

CO3,CO6 and CO7 are moderately mapped as the student will able to analysis of problem by applying the I/O operations to handle backup system using files and to develop general purpose template and student will be able to handle raised exception while implementing various object oriented concepts and also of DBMS related .

PO3. Design and Development:

In CO4, CO5, CO6 and CO7 are strongly mapped as student will able to develop a application using OPSS and associated concept to solve complex problems.

PO4. Conduct investigations of complex problems:

In CO3, CO6 and CO7 are moderately mapped as student will able to find the solution on I/O operations, exception handling and OOPs concepts related problems by conducting

investigation and also student will able to get the solution for different DML,DDL,DCL command .

PO7 : Individual and Team Work

In CO1,CO2,CO3,CO4, CO5, CO6 and CO moderately mapped as student can find solution on program or queries regarding OOPs and DBMS individually or by group.

PO9.Project Management

CO6 and CO7 moderately mapped as the students will be able to get the detailed about OOPs and associated concepts for complex problems to develop application and DBMS related concepts.

PO11. Innovation, employability, and Entrepreneurial skills:

CO7 is strongly mapped as student will able to get the different opportunities in real world as he will get the need knowledge about Oops and associated concepts and students will also get opportunities in application development by using backend as SQL server.