Anekant Education Society's

Tuljaram Chaturchand College, Baramati

(Autonomous)

Four Year Degree Program in BBA(C.A)

(Faculty of Commerce)

CBCS Syllabus

FYBBA (C.A.) Semester -I

For Department of BBA (Computer Application)

Tuljaram Chaturchand College, Baramati

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

To be implemented from Academic Year 2023-2024

Title of the Programme: F.Y.BBA (Computer Application)

Preamble

AES's Tuljaram Chaturchand College has made the decision to change the syllabus of across various faculties from June, 2023 by incorporating the guidelines and provisions outlined in the National Education Policy (NEP), 2020. The NEP envisions making education more holistic and effective and to lay emphasis on the integration of general (academic) education, vocational education and experiential learning. The NEP introduces holistic and multidisciplinary education that would help to develop intellectual, scientific, social, physical, emotional, ethical and moral capacities of the students. The NEP 2020 envisages flexible curricular structures and learning based outcome approach for the development of the students. By establishing a nationally accepted and internationally comparable credit structure and courses framework, the NEP 2020 aims to promote educational excellence, facilitate seamless academic mobility, and enhance the global competitiveness of Indian students. It fosters a system where educational achievements can be recognized and valued not only within the country but also in the international arena, expanding opportunities and opening doors for students to pursue their aspirations on a global scale.

In response to the rapid advancements in science and technology and the evolving approaches in various domains of BBA (Computer Application) and related subjects, the Board of Studies in BBA (Computer Application) at Tuljaram Chaturchand College, Baramati - Pune, has developed the curriculum for the first semester of F.Y. BBA (Computer Application), which goes beyond traditional academic boundaries. The syllabus is aligned with the NEP 2020 guidelines to ensure that students receive an education that prepares them for the challenges and opportunities of the 21st century. This syllabus has been designed under the framework of the Choice Based Credit System (CBCS), taking into consideration the guidelines set forth by the National Education Policy (NEP) 2020, LOCF (UGC), NCrF, NHEQF, Prof. R.D. Kulkarni's Report, Government of Maharashtra's General Resolution dated 20th April and 16th May 2023, and the Circular issued by SPPU, Pune on 31st May 2023.

BBA (Computer Application) is Undergraduate Degree Program with Computer Applications and Management Subjects. This program provides sound knowledge of theory and practical's. The different subjects helps the students to design, develop and implement software Applications, to learn emerging computer technologies and produce skilled human resource to face the professional challenges.

Overall, revising the BBA (Computer Application) syllabus in accordance with the NEP 2020 ensures that students receive an education that is relevant, comprehensive, and prepares them to navigate the dynamic and interconnected world of today. It equips them with the knowledge, skills, and competencies needed to contribute meaningfully to society and pursue their academic and professional goals in a rapidly changing global landscape.

Programme Outcome for NEP 2020 (With Effect from June 2023-24)

Commerce and Management (Under Graduate Programme)

PO1: A Fundamental Knowledge and Coherent Understanding:

Student should be able to acquire broad multidisciplinary knowledge in different educational domains and their links to various field of study like Banking, Accounting, Management, Logistics, Marketing, Human Resource Management and Computer Science and Applications.

PO2: Procedural Knowledge for Skill Enhancement:

Students should be able to acquired complete procedural knowledge for deep understanding of every subject and enhancing the subject skills.

PO3: Critical Thinking and Problem-Solving Skills:

Students should be able to solve all types of issues in both known and unknown circumstances, as well as apply what they have learned to real-life situations. Students will be able to conduct investigation on complex problem solving through the design of experiments, analysis and interpretation of data to arrive at valid conclusion.

PO4: Communication Skills:

With the help of various languages students will enhance the communication skills which will improve the personality of the students with the help of interpersonal and intrapersonal communication skills. Students should be able to construct logical arguments using correct technical language related to a field of learning. Also Students should be able to communicate effectively, analyze the concepts and participate in healthy arguments and portray skill in communication and in writing. Possess skills related with banking and other business.

PO5: Analytical Reasoning Skills:

The students should be able to demonstrate the capability to evaluate the reliability and relevance of situation and select the proper course of action. Strengthen analytical skills in business operations and analyze the positive aspects and limitations of conducting trade and trade-related activities according to their extensive knowledge.

PO6: Innovation, Employability and Entrepreneurial Skills:

The students should be able to identify opportunities and pursue those opportunities to create value and wealth for the betterment of the individual and society at large as well

as be suitable for employment, as an entrepreneur focused, and serve as a role model for ethical and responsible economic professionals.

PO7: Multidisciplinary Competence:

The student should be able to demonstrate the acquisition of knowledge of the values and beliefs of multiple disciplines. The student should be able to perceive knowledge as an environmental friendly, extensive, interconnected, and interconnected faculty of consciousness that encourages design, interpersonal, and empathetic and understanding environmental challenges across disciplines.

PO8: Value Inculcation through Community Engagement:

The students should be able to implement the acquired knowledge and attitude to embrace constitutional, humanistic, ethical, and moral values in life. Students should be able to participate in community-engaged activities for promoting the well being of the society.

PO9: Traditional Knowledge into Modern Application:

Students should be able to acquire and apply traditional knowledge system in to modern and professional domain.

PO10: Design and Development of System:

Students should be able to design and develop efficient solutions for complex real world computing problems and design system components or processes that meet the specifies needs with appropriate consideration for public health and safety and the cultural, social and environmental considerations.

PO11: Ethical and Social Responsibility:

Students should be able to acquire knowledge of ethics and ethical standards and an ability to apply these with a sense of responsibility within the workplace and community. Understand and accept the moral aspects, accountability, and value system for a nation and society. Students should be able to demonstrate academic accountability, intellectual authenticity, and personal integrity. Students also acquire abilities to comprehend and implement professional ethics.

PO12: Research-Related skills:

The students should be able to acquire the understanding of basic research process, methodology and ethics in practicing personal and social research work, regardless of the field of study.

PO13: Teamwork:

The students should be able to able to work constructively, cooperatively, effectively and respectfully as part of a team.

PO14: Area Specific Expertise:

The students should be able to apply various subjective concepts, theories and model in the area of Accounting, Taxation, Marketing, Finance and Human Resource Management, Computer after better understanding of the subject and its contents.

PO15: Environmental Awareness:

The students should be able to manage environmental- related risk from an organization's operation as well as identify environmental hazards affecting air, water and soil quality. The students should be able to manage and controls to reduce and eliminate environmental risk.

Programme Specific Outcomes (PSOs)

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, analyze 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.

Anekant Education Society's

Tuljaram Chaturchand College, Baramati

(Autonomous)

Board of Studies (BOS) in BBA (Computer Application)

From 2022-23 to 2024-25

Sr. No.	Name	Designation
1.	Mrs. Sudha Patil	Chairman
2.	Ms. Madhuri Saste	Member
3.	Ms. Reshma Babar	Member
4.	Mrs. Ashwini Bhosale	Faculty
5.	Ms. Vaishnavi Shivarkar	Faculty
6.	Mrs. Jyostna Gharge	Faculty
7.	Dr. Ranjeet Patil	Expert from SPPU Pune
8.	Dr. Sagar Jambhorkar	Expert from other University
9.	Dr. Arjun Mane	Expert from other University
10.	Mr. Harish Saitwal	Industry Expert
11.	Mr. Prithviraj Sawant	Meritorious Alumni
12.	Mr. Tejas Shinde	Student Representative
13	Ms. Fatima Baramatiwala	Student Representative

Credit Distribution Structure for F.Y.BBA(Computer Applications)-2023-2024

Level	Semester	Major		Minor	OE	VSC, SEC, (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr/Sem	Degree/ Cum.Cr.
		Mandatory	Electives							
4.5	I	BCA-101-MJM: Programing in C(2 credits) BCA-102-MJM: Database Management System (2 credits) BCA-103-MJM: Practical I (2 credits)	—	—	BCA-116-OE: E-Commerce (2 credits) BCA-117-OE: Office Automation using MS-Office (2 credits)	BCA-121-VSC: Networking (2 credits) BCA-126-SEC: MS-Excel Skills for Business (2 credits)	ENG-131-AEC (English) (2 credit) BCA-135-VEC: Environmental Science (2 credits) BCA-137-IKS: Indian Innovations in Computer and Technology (2 credits)	CC1 (2 credit)	22	UG Certificate 44 credits
	II	BCA-151-MJM: Data Structure using C (2 credits) BCA-152-MJM: Relational Database Management System (2 credits) BCA-153-MJM: Practical II	—	BCA-161-MN: Basics of Computer (2 credits)	BCA-166-OE: Introduction to Business Analytics (2 credits) BCA-167-OE: Python for Everyone (2 credits)	BCA-171-VSC: Networking Laboratory (2 credits) BCA-176-SEC Advance Excel (2 credits)	ENG-181-AEC (English) (2 credit) BCA-185-VEC: Environmental Science (2 credits)	CC2 (2 credit)	22	
	Cum Cr.	12	--	2	8	8	10	4	44	

Course Structure for F.Y.BBA (C.A.) (2023 Pattern)

Sem	Course Type	Course Code	Course Name	Theory / Practical	Credits
I	Major Mandatory	BCA-101-MJM	Programing in C	Theory	02
	Major Mandatory	BCA-102-MJM	Database Management System	Theory	02
	Major Mandatory	BCA-103-MJM	Practical I	Practical	02
	Open Elective (OE)	BCA-116-OE	E-Commerce	Theory	02
	Open Elective (OE)	BCA-117-OE	Office Automation using MS-Office	Practical	02
	Vocational Skill Course (VSC)	BCA-121-VSC	Networking	Theory	02
	Skill Enhancement Course (SEC)	BCA-126-SEC	MS-Excel Skills for Business	Practical	02
	Ability Enhancement Course (AEC)	ENG-131-AEC	AEC1 (English)	Theory	02
	Value Education Course (VEC)	BCA-135-VEC	Environmental Science	Theory	02
	Indian Knowledge System (IKS)	BCA-137-IKS	Indian Innovations in Computer and Technology	Theory	02
	Co-curricular Course (CC)	--	To be selected from the Basket	Theory	02
				Total Credits Semester-I	**22**
II	Major Mandatory	BCA-151-MJM	Data Structure using C	Theory	02
	Major Mandatory	BCA-152-MJM	Relational Database Management System	Theory	02
	Major Mandatory	BCA-153-MJM	Practical II	Practical	02
	Minor	BCA-161-MN	Basics of Computer	Theory	02
	Open Elective (OE)	BCA-166-OE	Introduction to Business Analytics	Theory	02
	Open Elective (OE)	BCA-167-OE	Python for Everyone	Practical	02
	Vocational Skill Course (VSC)	BCA-171-VSC	Networking Laboratory	Practical	02
	Skill Enhancement Course (SEC)	BCA-176-SEC	Advance Excel	Practical	02
	Ability Enhancement Course (AEC)	ENG-181-AEC	AEC-2 (English)	Theory	02
	Value Education Course (VEC)	BCA-185-VEC	Environmental Science	Theory	02
	Co-curricular Course (CC)	--	To be selected from the Basket	Theory	02
				Total Credits Semester-II	**22**
				Cumulative Credits Semester I + Semester II	**44**

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)
Programme Code : UBCA
Class : F.Y. BBA (C.A)
Semester : I
Course Type : Major Mandatory (Theory)
Course Code : BCA-101-MJM
Course Title : Programing in C
No. of Credits : 02
No. of Teaching Hours : 30

Course Objectives:

1. To acquire the fundamental principles, concepts and constructs of C programming.
2. To develop competency for the design, coding and debugging.
3. To understand the various steps in program development through the structured programming approach.
4. To learn the syntax and semantics of C programming language thereby learning the programming concepts in general.
5. To learn the use of structured programming approach in solving problems.
6. To decompose the problem in structured way.
7. To provide a broad overview of problem solving techniques and use of c language programming to solve these problems.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Read, understand and trace the execution of programs written in C language.

CO2. Utilize standard C libraries for various functionalities such as mathematical computations, string manipulation, and input/output operations.

CO3. Apply their knowledge to design, implement, and test a substantial project that demonstrates their proficiency in C programming.

CO4. Write, debug and execute simple programs in 'C'.

CO5. Develop C programs to demonstrate the applications of derived data types such as arrays and functions.

CO6. Develop modular applications using C programming language.

CO7. Apply the concepts of looping, branching, and decision-making statements for a given Problem

Topics and Learning Points	Teaching Hours

UNIT 1: Introduction to C Language **04**

1.1 History
1.2 Basic Structure of C Programming
1.3 Language Fundamentals
1.3.1 Character Set, Tokens
1.3.2 Keyword & Identifiers
1.3.3 Variables & Data Types
1.4 Operators
1.4.1 Types of Operators
1.4.2 Precedence & Associativity

UNIT 2: Managing I/O Operations **03**

2.1 Console based I/O & related Built-in I/O Functions
2.1.1 printf(), scanf()
2.1.2 getch(), getchar()
2.2 Formatted Input & Formatted Output

UNIT 3: Decision Making and Looping **09**

3.1 Introduction
3.2 Decision making Structure
3.2.1 If Statement
3.2.2 If-else Statement
3.2.3 Nested if-else Statement
3.2.4 Conditional Operator
3.2.5 Switch Statement
3.3 Loop Structure
3.3.1 While Loop
3.3.2 Do-while Loop
3.3.3 For Loop
3.3.4 Nested For Loop
3.4 Loop Control Statements
3.4.1 break
3.4.2 continue
3.4.3 go to
3.4.4 exit

UNIT 4: Functions **06**

4.1 Introduction
4.1.1 Purpose of Functions
4.1.2 Function Definition
4.1.3 Function Declaration
4.1.4 Function Call
4.2 Types of Functions
4.2.1 Call by value
4.2.2 Call by reference
4.3 Recursion
4.4 Storage Classes

UNIT 5: Arrays And Strings **08**

5.1 Introduction to One- Dimensional Array
- 5.1.1 Definition
- 5.1.2 Declaration
- 5.1.3 Initialization

5.2 Introduction to Two- Dimensional Array
- 5.2.1 Definition
- 5.2.2 Declaration
- 5.2.3 Initialization

5.3 Dynamic Memory Allocation
- 5.3.1 Using malloc() Function
- 5.3.2 Using calloc() Function
- 5.3.3 Resizing Array using realloc() Function

5.4 Introduction to string
- 5.4.1 Definition
- 5.4.2 Declaration
- 5.4.3 Initialization
- 5.4.4 String Handling Functions

References:

1. "Let Us C" by Yashwant Kanetkar, 17th Edition, BPB Publication.
2. K.N.King, “C Programinng: Modern approach”, 2nd Edition, W.W Norton and Comp.
3. Greg Perry and Dean Meler,”C programing Absolute Beginer’s Guide”, 3rd Edition.
4. Mike McGrath,”C programing in easy steps”, 5th Edition, McGraw Hill Education.
5. "The C Programming Language" by Brian W Kernighan / Dennis Ritchie.
6. "C in Depth" by Deepali Srivastava and S K Srivastava.
7. "Programming in ANSI C" by E Balgurusamy, 2nd Edition.

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA
Course: Programing in C **Course Code**: BCA-101-MJM

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

Programme Outcomes(POs)															
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO1	3	3												3	
CO2		3			3									3	
CO3		3	2							3					
CO4		3												3	
CO5		3			3									3	
CO6		3								3					
CO7		3	2		3										

PO1. **Fundamental Knowledge and Coherent Understanding:**

CO1, CO2, CO3, CO4, CO5, CO6 and CO7 contribute to the development of students' disciplinary knowledge in Computer Application.

CO1 is strongly mapped as the develop fundamental knowledge and understanding. CO1 helps to understands program execution in C requires a solid grasp of computer application principles and programming logic.

PSO2. **Procedural Knowledge and Coherent Understanding:**

CO1, CO2, CO3, CO4, CO5, CO6 and CO7 are strongly mapped as it helps to student for procedural knowledge for skill enhancement

CO1 is for tracing programs enhances the procedural knowledge needed to understand and debug code.CO2 helps for utilizing libraries involves procedural skills for performing specific tasks efficiently. CO3 helps in designing and implementing projects demonstrates procedural skills in programming. CO4 helps in writing, debugging, and executing programs enhances procedural knowledge and coding skills.CO5 helps in developing programs with arrays and functions involves procedural skills in using complex data types. CO6 helps in developing modular applications involves procedural skills for structuring and organizing code effectively. CO7 helps in applying control structures enhances procedural knowledge in implementing logical flow in programs.

PSO3. **Critical Thinking and Problem-solving Skills:**

CO3 and CO7 are moderately mapped as getting critical thinking and problem-solving skills.

CO3 requires critical thinking to design effective solutions and solve problems encountered during implementation.CO7 requires problem-solving skills to determine the appropriate control structures for different scenarios.

PSO5. **Analytical Reasoning Skills:**

CO2, CO5 and CO7 are strongly mapped as get analytical reasoning skills.CO2 requires analytical reasoning to select and apply the appropriate library functions for different tasks. CO5 provides analytical reasoning to implement and manipulate derived data types effectively. CO7 involves analytical reasoning to implement decision-making statements effectively in various problem contexts.

PSO10. **Design and Development:**

CO3 and CO6 are strongly mapped for Design and Development.CO3 involves the design and development of system components or processes using C programming. CO6 is essential for designing efficient, scalable, and maintainable system components using modular programming techniques.

PSO14. **Area Specific Expertise:**

CO1, CO2, CO4 and CO5 are strongly mapped for area specific expertise.

CO1 provides specific expertise in programming, crucial for solving problems in various domains like finance and human resource management. CO2 specializes in the use of standard libraries, essential for efficient programming in various application areas. CO4 builds expertise in programming, necessary for solving domain-specific problems.CO5 provides specific expertise in using arrays and functions for problem-solving in various fields.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)
Programme Code : UBCA
Class : F.Y. BBA (C.A)
Semester : I
Course Type : Major Mandatory (Theory)
Course Code : BCA-102-MJM
Course Title : Database Management System
No. of Credits : 02
No. of Teaching Hours : 30

Course Objectives:

1. To know the Fundamentals of Databases
2. To understand how to use Databases in day to day Applications.
3. To Discuss Database management systems, databases and its applications
4. To familiarize the students with a good formal foundation on the relational model.
5. To Outline the various systematic database design approaches.
6. To understand how a real world problem can be mapped to schemas.
7. To solve different industry level problems & to learn its applications.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Describe the fundamental elements of Database management system.
CO2. Model Entity-Relationship diagrams for enterprise level databases.
CO3. Formulate Queries using SQL and Relational Formal Query Languages.
CO4. Apply different normal forms to design the Database.
CO5. Improve the database design by normalization.
CO6. Design ER-models to represent simple database application scenarios.
CO7. Analyze and design a real database application and develop and evaluate a real database application using a database management system.

	Topics and Learning Points	Teaching Hours
UNIT 1:	**Introduction of DBMS**	**03**
	1.1. Introduction 1.2 Definition of DBMS 1.3. Describing & storing data (Data models - relational, hierarchical, network) 1.4. Levels of abstraction 1.5. Data independence 1.6. Structure of DBMS 1.7. Users of DBMS 1.7.1 Database Designers 1.7.2 Application programmer 1.7.3 Sophisticated Users 1.7.4 End Users 1.8. Advantages and Disadvantages of DBMS	
UNIT 2:	**Data Models**	**06**
	2.1 Introduction 2.2 Data Models 2.2.1 Object Based Logical Model 2.2.2 Record Base Logical Model a. Relational Model b. Network Model c. Hierarchical Model 2.3 Entity Relationship Model 2.3.1 Entity Set 2.3.2 Attribute 2.3.3 Relationship Set 2.4 Entity Relationship Diagram (ERD) 2.5 Extended features of ERD	
UNIT 3:	**Relational Databases**	**06**
	3.1 Introduction 3.2 Terms a. Relation b. Tuple c. Attribute d. Cordinality e. Degree f. Domain 3.3 Keys 3.3.1 Super Key 3.3.2 Candidate Key 3.3.3 Primary Key 3.3.4 Foreign Key 3.4 Relational Algebra 3.4.1 Operations a. Select	

b. Project
c. Union
d. Difference
e. Intersection
f. Cartesian Product
g. Natural Join

UNIT 4:	**SQL (Structured Query Language)**	**10**

4.1 Introduction
4.2 History of SQL
4.3 Basic Structure
4.4 DDL Commands
4.5 DML Commands
4.6 Simple Queries
4.7 Nested Queries
4.8 Aggregate Functions
4.9 Clauses

UNIT 5:	**Relational Database Design**	**05**

5.1 Introduction
5.2 Anomalies of un normalized database
5.3 Normalization
5.4 Normal Form
5.4.1 1 NF
5.4.2 2 NF
5.4.3 3 NF

References:

1. Database System Concepts By Henry korth and A. Silberschatz S. Sudarshan,Tata McGraw- Hill Education
2. An Introduction to Database System by Bipin Desai
3. Database Management Systems, Raghu Ramakrishnan and Johannes Gehrke, McGraw-Hill Science/Engineering/Math; 3 Edition
4. Teach Yourself SQL in 14 days by Jeff Parkins and Bryan Morgan
5. Database Systems, Shamkant B. Navathe, RamezElmasri,Pearson Higher Education.

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA
Course: Database Management System **Course Code**: BCA-102-MJM

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

Programme Outcomes(POs)															
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO 5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO1	3								3		3			3	
CO2	3	3	3		3								3		
CO3		3	3		3							3	3	3	
CO4		3								3				3	
CO5		3			3					3				3	
CO6	3	3	3			3			3	3	3			3	
CO7	3	3	3			3			3	3	3	3		3	

***PO1.* A Fundamental Knowledge and Coherent Understanding:**

CO1 CO2 CO6 and CO7 are strongly mapped as CO1, which provides fundamental knowledge about DBMS. CO2 incorporates multidisciplinary knowledge (e.g., management, IT). CO6 integrates fundamental and interdisciplinary knowledge. CO7 delivers a broad knowledge base for database applications.

***PSO2.* Procedural Knowledge and Coherent Understanding:**

CO2 CO3 CO4 CO5, CO6, and CO7 are strongly mapped as procedural knowledge. CO2 and CO6 enhance procedural knowledge in creating and designing ER diagrams. CO3 enhances procedural expertise in SQL and query languages. CO4 enhances the procedural understanding of database normalization. CO5 enhances procedural expertise in database design. CO7 procedural and practical knowledge.

***PSO3.* Critical Thinking and Problem-solving Skills:**

CO2, CO3, CO6, and CO7 are strongly mapped for problem-solving skills. CO2 develops problem-solving skills by modeling databases.CO3 and CO6 mapped develop critical thinking and problem-solving through query formulation and practical design scenarios. CO7 faces complex real-world problems.

CO4 Contribute to the development of students' problem analysis, thinking skills and problem-solving skills. It is moderately mapped as the students will apply their knowledge to evaluate programming knowledge.

***PSO5*. Analytical Reasoning Skills:**

CO2 and CO3 are strongly mapped to enhance analytical reasoning by creating ER diagrams and query optimization.CO5 strengthens analytical reasoning through normalization techniques.

***PSO6*. Innovation, employability, and Entrepreneurial skills:**

CO6 and CO7 are strongly mapped as encouraging innovation in database design, and CO7 encourages innovation and entrepreneurial skills.

PO9: Traditional Knowledge into Modern Application:

CO1 applies traditional knowledge to modern DBMS. CO6 and CO7 are strongly mapped as traditional methods are applied in modern database applications.

***PSO10.* Design and Development:**

CO4, CO5, CO6, and CO7 are strongly mapped as Design and Development.CO4 is a design-efficient database system considering normalization. CO5 and CO6 ensure efficient database design through normalization. CO7 designs and develops efficient database systems.

PO11: Ethical and Social Responsibility:

CO1, CO6, and CO7 are strongly mapped as ethical and social responsibilities. CO1 understands ethical standards in database management. CO6 and CO7 demonstrate ethical and social responsibility in design and database management.

PO12: Research-Related skills:

CO3 and CO7 are strongly mapped as develops research-related skills through complex queries and practical projects.

PO13: Teamwork:

CO2 and CO3 are strongly mapped as they encourage teamwork for collaborative ER diagram creation and query design.

PO14: Area Specific Expertise:

CO1, CO3, CO4, CO5, CO6, and CO7 are strongly mapped as area-specific expertise. CO1 offers area-specific expertise in DBMS. CO3 provides expertise in SQL, a critical tool in accounting, marketing, etc. CO4 provides area-specific expertise in normalized database design. CO5 offers expertise in creating robust database systems. CO6 provides specific expertise in database modeling. CO7 provides expertise in database development and evaluation.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)
Programme Code : UBCA
Class : F.Y. BBA (C.A)
Semester : I
Course Type : Major Mandatory (Theory)
Course Code : BCA-103-MJM
Course Title : Practical I
No. of Credits : 02
No. of Teaching Hours : 60

Course Objectives:

1. To make the student learn a programming language.
2. To learn problem solving techniques.
3. To teach the student to write programs in C and to solve the problems.
4. To study various data types, arrays, strings and functions in C.
5. Understand the basic concepts and the applications of database systems.
6. Master the basics of SQL and construct queries using SQL.
7. Understand the relational database design principles.
8. Familiar with database storage structures and access techniques.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Explain use of appropriate data types, control statements.

CO2. Write programs using Array, String and function.

CO3. Read, understand and trace the execution of programs written in C language.

CO4. Write the C code for a given algorithm.

CO5. Demonstrate the basic elements of a relational database management system

CO6. Identify the data models for relevant problems.

CO7. Design entity relationship and formulate SQL queries on the respect data.

CO8. Extend normalization for the development of application software‘s.

Topics and Learning Points	Teaching Hours

C Assignments

1. Assignments on Basics programs.
2. Assignments on variables and constants.
3. Assignments on Different data types.
4. Assignments on operators and Expressions.
5. Assignments on Decision making Statements.
6. Assignments on Switch Statements.
7. Assignments on Looping Statements.
8. Assignments on Loop control Statements.
9. Assignments on Math Functions and I/O Functions.
10. Assignments on Call by value and call by reference.
11. Assignments on Recursion.
12. Assignments on 1 D- Arrays.
13. Assignments on 2 D- Arrays.
14. Assignments on Dynamic Memory Allocation.
15. Assignments on String and String Handling functions.

Database Assignments

1 Assignment on SQL – DDL Commands.
2 Assignment on SQL – DML Commands.
3 Assignment on SQL – DTL Commands.
4 Assignment on Aggregate Functions.
5 Assignment on Relational Algebra Operations.
6 Assignment on Nested Queries.
7 Assignment on Create Database, select database, Drop database.
8 Assignment on Create Table, Drop table, Insert Query, Select Query.
9 Assignment on Constraints.
10 Assignment on Displaying data from Multiple tables.
11 Assignment on Operators, Expressions, where clause, AND & OR clauses.
12 Assignment on Update Query/Delete Query, Like clause, Limit Clause.
13 Assignment on Order By Clause with Ascending and Descending order.
14 Assignment on Order By, Group By, With Clause, Having Clause, Distinct keyword
15 Assignment on Constraints, Joins, Union Clause, NULL Clause, Alias Syntax

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA
Course: Practical I **Course Code**: BCA-103-MJM

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

Programme Outcomes(POs)															
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO1	3	3	3											3	
CO2	3	3								3				3	
CO3	3		3										3	3	
CO4		3	3							3				3	
CO5	3	3	3											3	
CO6		3			3					3				3	
CO7	3	3			3					3				3	

PO1: **A Fundamental Knowledge and Coherent Understanding:**

CO1, CO2, CO3, CO4, CO5, CO6 and CO7 contribute to the development of students' disciplinary knowledge in Computer Application.

CO1, CO2, CO3, CO5 and CO7 are strongly mapped for a fundamental knowledge and coherent understanding. CO1 Helps for Understanding data types and control structures is critical for broad knowledge in computer science and applications.CO2 is for Programming with arrays, strings, and functions is part of essential computing knowledge. CO3 Helps in understanding the execution of programs builds foundational knowledge in computer application.CO5 Helps to understand RDBMS principles is part of multidisciplinary knowledge in computer application.CO7 helps in understanding database normalization is fundamental for database management

PSO2: **Procedural Knowledge and Skill Enhancement:**

CO1, CO2, CO4, CO5, CO6 and CO7 are strongly mapped to procedural knowledge and coherent understanding.CO1 is choosing and implementing appropriate data types and control structures requires a deep understanding of their procedural aspects. CO2 Helps in writing programs demonstrates procedural knowledge in using these constructs. CO4 Helps to translating algorithms into code demonstrates procedural understanding. CO5 is for demonstrating RDBMS fundamentals involves procedural knowledge of database management. CO6 help to designing ER models and writing SQL queries require procedural skills. CO7 helps for Extending normalization requires procedural understanding of database principles.

PSO3: **Critical Thinking and Problem-Solving Skills:**

CO1, CO3, CO4 and CO5 are strongly mapped for critical thinking and problem-solving skills.

CO1 is for selecting the correct constructs involves critical thinking to solve various problems effectively. CO3 helps for tracing program execution involves analytical thinking and problem-solving. CO4 is for converting algorithms into functional code requires critical thinking and problem-solving. CO5 helps in problem-solving skills are required to understand and manage databases effectively

PSO5: **Analytical Reasoning Skills:**

CO6 and CO7 are strongly mapped for Analytical Reasoning Skills. CO6 helps to analytical reasoning is necessary for creating and normalizing databases. CO7 helps for refining database schemas involves analytical reasoning.

PSO10: **Design and Development:**

CO2, CO4, CO6 and CO7 are strongly mapped for design and development**.**

CO2 used in developing programs is crucial for designing efficient and functional system components.CO4 helps in coding algorithms is essential for designing effective system components. CO6 is to designing efficient databases is critical for developing robust data management solutions.CO7 helps in normalization is key for developing efficient and scalable database systems.

PSO13: **Teamwork:**

CO3 is strongly mapped to Teamwork**.** CO3 is for collaborating on debugging and code reviews enhances teamwork skills.

PSO14**: Area Specific Expertise:**

CO1, CO2, CO3, CO4, CO5, CO6 and CO7 are strongly mapped for Area Specific Expertise. CO1 helps for Mastering data types and control statements is fundamental for proficiency in programming and problem-solving in specific domains. CO2 is for proficiency in these basic constructs is necessary for expertise in programming. CO3 helps for developing the ability to read and understand code is critical for maintaining and improving existing programs. CO4 helps for implementing algorithms in code shows expertise in programming.CO5 helps to implement knowledge of RDBMS is essential for expertise in database management. CO6 will expertise in ER modelling and SQL is crucial for database design and management.

CO7 helps for Specialization in normalization is crucial for developing high-quality database solutions.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)

Programme Code : UBCA

Class : F.Y. BBA (C.A)

Semester : I

Course Type : OE

Course Code : BCA-116-OE

Course Title : E-Commerce

No. of Credits : 02

No. of Teaching Hours : 30

Course Objectives:

1. Understand key business concepts and strategies applicable to business commerce.
2. Understand the impact of business commerce applications.
3. To instill idea of convergence of business relationship through recent technologies.
4. To identify, define and differentiate the various modes of electronic commerce.
5. Describe the use of e-commerce advertising and marketing
6. Understand business documents and digital library.
7. Understand the usage of multimedia systems for e-commerce.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Gain an Understanding on how innovative use of the Business Commerce can help developing competitive advantages.

CO2. Develop an understanding on how internet can help business grow.

CO3. Enumerate the technological changes in trade.

CO4. Explain E-commerce on business models and strategy.

CO5. Interpret various terminologies of electronic commerce.

CO6. Identify the key security threats in the E-commerce environment.

CO7. Describe how procurement and supply chains relate to B2B E-commerce.

Topics and Learning Points		Teaching Hours
UNIT 1:	**Introduction to Electronic Commerce** 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)	**08**
UNIT2:	**Electronic Payment System** 2.1 Introduction 2.2 Types Of Electronic Payment System 2.3 Payment Types 2.4 Traditional Payment 2.5 Value Exchange System 2.6 Credit Card System 2.7 Electronic Funds Transfer 2.8 Paperless Bill 2.9 Modern Payment Cash 2.10 Electronic Cash	**10**
UNIT3:	**E-Commerce Technology** 3.1 Security Issues in E-Commerce 3.2 Legal and Ethical Issues 3.3 Role of social media in e-Commerce Industry 3.4 Mobile Commerce Risk 3.5 Security and Payment Methods 3.5.1 Mobile Money 3.6 Infrastructure and Fraud Prevention For M-Payment 3.7 Current Trends in Electronic World 3.7.1 E-Waste 3.7.2 E-Surveillance 3.7.3 E-Governance 3.7.4 E-Care.	**12**

References:

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.

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA

Course: E-Commerce Course Code: BCA-116-OE

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

	Programme Outcomes (POs)														
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO 1	3		3		3	3				3				3	
CO 2	3		3		3	3								3	
CO 3	3				3	3	3		3					3	3
CO 4	3		3			3	3			3				3	
CO 5	3				2				3		3			3	
CO 6		2	3								3			3	
CO 7	3		3				3					3	3	3	

PO1: A Fundamental Knowledge and Coherent Understanding:

CO1, CO2, CO3, CO4, CO5, and CO7 are strongly mapped as fundamental knowledge and understanding of business commerce. CO2 integrates multidisciplinary knowledge, including the impact of the Internet on business. CO3 provides a broad knowledge of technological changes affecting trade. CO4 provides a fundamental understanding of e-commerce business models and strategies. CO5 provides broad knowledge and understanding of e-commerce terminologies. CO7 provides multidisciplinary knowledge of procurement and supply chains in B2B e-commerce.

PO2: Procedural Knowledge for Skill Enhancement:

CO6 is moderately mapped, as students should be able to enhance their procedural knowledge in identifying security threats.

PO3: Critical Thinking and Problem-Solving Skills:

CO1, CO2, CO4, CO6, and CO7 are strongly mapped as thinking and problem-solving skills.CO1 enhances critical thinking and problem-solving skills to develop competitive advantages. CO2, CO4, and CO7 enhance problem-solving skills by leveraging the internet for business growth and e-commerce contexts. CO6 develops problem-solving skills for addressing security issues.

PO5: Analytical Reasoning Skills:

CO1, CO2, CO3, and CO5 are strongly mapped as improving analytical reasoning in evaluating business strategies. CO2 and CO3 strengthen analytical reasoning through understanding technological impacts and interpreting e-commerce concepts.

PO6: Innovation, Employability and Entrepreneurial Skills:

CO1, CO2, CO3, and CO4 are strongly mapped as encouraging innovation and employability skills. CO2 encourages innovation in business practices. CO3 encourages entrepreneurial skills in adapting to technological changes. CO6 encourages entrepreneurial skills in e-commerce.

PO7: Multidisciplinary Competence:

CO3, CO4 and CO7 are strongly mapped as Demonstrates multidisciplinary competence in technology and trade.

PO9: Traditional Knowledge into Modern Application:

CO3 and CO5 are strongly mapped as relating traditional trade knowledge to modern technological contexts. CO5 integrates traditional commerce knowledge with modern electronic contexts.

PO10: Design and Development of System:

CO1 and CO4 focus on designing and developing strategic systems for competitive advantage. CO4 focuses on designing strategic e-commerce systems.

PO11: Ethical and Social Responsibility:

CO5 is strongly mapped as demonstrates ethical and social responsibility in e-commerce. CO6 understands and applies ethical standards in e-commerce security.

PO12: Research-Related skills:

CO7 is strongly mapped as develops research-related skills in B2B E-commerce.

PO13: Teamwork:

CO7 is Encourages teamwork in understanding supply chain relationships.

PO14: Area Specific Expertise:

All the CO mapped as Offers area-specific expertise in business commerce. Provides expertise in internet-based business strategies. Provides specific expertise in the technological aspects of trade. Provides area-specific expertise in e-commerce. Offers expertise in e-commerce security.

PO15: Environmental Awareness:

CO3 is strongly mapped as Raises awareness about environmental impacts of technological changes in trade.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)

Programme Code : UBCA

Class : F.Y. BBA (C.A)

Semester : I

Course Type : OE

Course Code : BCA-117-OE

Course Title : Office Automation using MS-Office

No. of Credits : 02

No. of Teaching Hours : 60

Course Objectives:

1. The main aim of this course is to develop relevant skills in office management practices, and office automation techniques.
2. To familiarize the students in preparation of documents and presentations with office automation tools.
3. These tools help organizations collect, manage, and analyze securely to accomplish everyday tasks and processes.
4. To enable the students to study MS Office and to enrich the practical knowledge in MS Office.
5. Introduces the basic features of Microsoft Office, Windows basics, and file management. Develops familiarity with Word, Excel, Access, PowerPoint, email.
6. MS Access is used to store large amounts of data in an organized and efficient manner, MS-Access is used to Plan, design, create, manipulate and query databases.
7. Use Access to generate reports, understand database terminology, produce user input forms.

Course Outcomes:

By the end of the course, students will be able to:

CO1. To perform documentation

CO2. To perform accounting operations

CO3. To perform presentation skills

CO4. Work in office, handle documents, spreadsheets, and make presentations

CO5. Create personal, academic and business documents

CO6. Proficient in using Windows, Word Processing Applications, Spreadsheet Applications, Database Applications and Presentation Graphics Applications.

CO7. Get a job as a office automation clerk, Support Assistant, Office Automation Technician, Secretary, Office Automation Analyst, Technician.

Topics and Learning Points	Teaching Hours

UNIT 1: Word **15**

1.1 Working with document
- 1.1.1 Opening and Saving files
- 1.1.2 Editing text document
- 1.1.3 Inserting ,Deleting, Cut, Copy, Paste, Undo, Redo, Find Search, Replace
- 1.1.4 Formatting page and setting Margins, converting files to different formats, Importing and Exporting documents,
- 1.1.5 Sending files to other
- 1.1.6 Using toolbars, Ruler, Using Icons, using help

1.2 Text Formatting and Saving File
- 1.2.1 New, Open, Close, Save, Save As,
- 1.2.2 Formatting Text:
- 1.2.2.1 Font Size, Font Style, Font Color, Use the Bold, Italic, and Underline
- 1.2.2.2 Change the Text Case
- 1.2.2.3 Line spacing, Paragraph spacing, Shading text and paragraph,
- 1.2.2.4 Working with Tabs and Indents,
- 1.2.2.5 Inserting custom Header and Footer, Inserting objects in the header and footer,
- 1.2.2.6 Add section break to a document, Multilevel numbering and Bulleting, Creating List, Customizing List style, Page bordering, Page background, Adding a Footnote, Adding Endnote

1.3 Working with Objects
- 1.3.1 Shapes, Clipart and Picture, Word Art, Smart Art
- 1.3.2 Columns and Orderings
- 1.3.3 Page Number, Date & Time Inserting Text boxes, Inserting symbols, Inserting Chart

1.4 Create Table
- 1.4.1 Working with Tables, Table Formatting, Table Styles, Alignment option, Merge and split option

1.5 Proofing the document
- 1.5.1 Check Spelling As You Type.
- 1.5.2 Mark Grammar Errors As You Type
- 1.5.3 Setting AutoCorrect Options

1.6 Printing
1.6.1 Page Setup, Setting margins, Print Preview, Print

UNIT 2: Excel **15**

2.1 Introduction to Excel-
- 2 .1.1 Introduction to Excel interface
- 2.1.2 Understanding rows and columns
- 2.1.3 Naming Cells, Working with excel workbook and sheets

2.2 Formatting excel work book-
2.2.1 New, Open, Close, Save, Save As,
2.2.2 Formatting Text: Font Size, Font Style, Font Color, Use the Bold, Italic and Underline, Wrap text, Merge and Centre Currency, Accounting and other formats, Modifying Columns, Rows & Cells
2.3 Perform Calculations with Functions-
2.3.1 Creating Simple Formulas
2.3.2 Setting up your own formula
2.3.3 Date and Time Functions
2.3.4 Logical Functions
2.3.4 Lookup Functions
2.3.5 Functions Mathematical Functions
2.3.6 Text Functions
2.4 Sort and Filter Data with Excel-
2.4.1 Sort and filtering data,
2.4.2 Using number filter, Text filter, Custom filtering, Removing filters from columns, Conditional formatting
2.5 Create Effective Charts to Present Data Visually-
2.5.1 Inserting Column, Pie chart etc.
2.5.2 Create an effective chart with Chart Tool, Design, Format, and Layout options, Adding chart title, Changing layouts, Chart styles, Editing chart data range, Editing data series, Changing chart
2.6 Protecting and Sharing the work book-
2.6.1 Protecting a workbook with a password
2.6.2 Allow user to edit ranges
2.7 Printing-
2.7.1 Page Setup,
2.7.2 Setting margins
2.7.3 Print Preview
2.7.4 Print

UNIT 3: MS Power Point: 15

3.1 Setting Up PowerPoint Environment
3.1.1 New, Open, Close, Save, Save As Typing the text, Alignment of text,
3.1.2 Formatting Text: Font Size, Font Style, Font Color, Use the Bold, Italic, and Underline Cut, Copy, Paste, Select All, Clear text, Find &Replace Working with Tabs and Indents
3.2 Creating slides and applying themes
3.2.1 Inserting new slide, Changing layout of slide, Duplicating slides, Copying and pasting slide,
3.2.2 Applying themes to the slide layout, Changing theme color, Slide background, Formatting slide background , Using slide views
3.3 Working with bullets and numbering
3.3.1Multilevel numbering and Bulleting
3.3.2 Creating List, Page bordering, Page background, Aligning text, Text directions, Columns option
3.4 Working with Objects

3.4.1 Shapes, Clipart and Picture, Word Art, Smart Art
3.4.2 Change the Order of Objects,
3.4.3 Inserting slide header and footer
3.4.4 Inserting Text boxes,
3.4.5 Inserting shapes, using quick styles,
3.4.6 Inserting symbols, Inserting Chart, Inserting Hyperlinks and Action Buttons
3.4.7 Edit Hyperlinks and Action Button
3.5 Working With Movies and Sounds
3.5.1 Inserting Movie From a Computer File,
3.5.2 Inserting Audio file, Audio Video
3.5.3 playback and format options, Video options, Adjust options, Reshaping and bordering Video
3.6 Animation and Slide Transition
3.6.1 Default Animation
3.6.2 Custom Animation
3.6.3 Modify a Default or Custom Animation ,
3.6.4 Reorder Animation Using Transitions
3.6.5 Apply a Slide Transition, Modifying a Transition, Advancing to the Next Slide
3.7 Using slide Master
3.7.1 Using slide master
3.7.2 Inserting layout Option, Creating custom layout
3.7.3 Inserting place holders
3.7.4 Formatting place holders
3.8 Slide show option
3.8.1 Start slide show
3.8.2 Start show from the current slide
3.8.3 Rehearse timing
3.8.4 Creating custom slide show
3.9 Proofing and Printing
3.9.1 Check Spelling As You Type
3.9.2 Setting AutoCorrect Options, Save as video, Save as JPEG Files
3.9.3 Save as PowerPoint Show file, Print Preview, Print

UNIT 4: MS-Access- 15

4.1 Create Database
4.2 Introduction, Planning a Database,
4.3 Access Screen,
4.4 Creating a New Database
4.5 Creating Tables
4.6 Working with Forms
4.7 Creating queries
4.8 Finding Information in Databases
4.9 Types of Reports
4.10 Printing & Print Preview
4.11 Importing data from other database viz, MS Excel etc.

References:

1. Comdex Information Technology course tool kit Vikas Gupta, WILEY Dreamtech,2005
2. The Complete Computer upgrade and repair book,3rd edition Cheryl A Schmidt, WILEY Dreamtech
3. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education.
4. Microsoft Office for Dummies by Wallace Wang
5. Mastering Office 2016 by Lalit Mali, Notion Press
6. Microsoft Office for Dummies by Wallace Wang OpenOffice.org for DUMMIES by Gurdy Leete, Ellen Finkelstein and Mary Leete

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA

Course: Office Automation using MS-Office **Course Code:** BCA-117-OE

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

	Programme Outcomes (POs)														
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO 1	3	3		3							3		3		
CO 2	3	3			3	3					3			3	
CO 3		3		3	3	3									
CO 4		3		3	3	3					3		3		
CO 5	3	3		3	3									3	
CO 6	3	3			3	3								3	
CO 7		3		3		3					3		3		

PO1: A Fundamental Knowledge and Coherent Understanding:

CO1, CO2, CO5, and CO6 are strongly mapped for fundamental knowledge and understanding. CO1 provides fundamental knowledge of documentation processes. CO2 and CO6 integrate multidisciplinary knowledge, including accounting and computer applications. CO5 provides a broad knowledge of document creation across various domains.

PO2: Procedural Knowledge for Skill Enhancement:

All the COS are strongly mapped as procedural knowledge and Skill. CO1 Enhances procedural knowledge for documentation tasks.CO2 Develops procedural skills specific to accounting operations. CO3 Enhances procedural knowledge for creating presentations. CO4 develops comprehensive procedural skills for office tasks. CO5 Enhances procedural knowledge for document creation. CO6 develops comprehensive procedural skills for various applications. CO7 Develops procedural skills specific to office automation roles.

PO4: Communication Skills:

CO1, CO3, CO4, CO5 and CO7 are strongly mapped with Communication Skills. CO1 improves communication skills through documentation. CO3 and CO5 develop communication skills through document creation and presentation practice. CO4 enhances communication skills through office work and presentations. CO7 enhances the communication skills necessary for office automation roles.

PO5: Analytical Reasoning Skills:

CO2, CO3, CO4, CO5, and CO6 are strongly mapped with analytical reasoning skills. CO2 strengthens analytical reasoning in evaluating financial information. CO3 strengthens analytical reasoning by organizing and presenting information. CO4 strengthens analytical reasoning in handling office documents and data. CO5 strengthens analytical reasoning by organizing and presenting information. CO6 strengthens analytical reasoning in different applications.

PO6: Innovation, Employability and Entrepreneurial Skills:

CO2, CO3, CO4, CO6, and CO7 are strongly correlated with innovation, employability, and entrepreneurial skills. CO2 encourages employability and entrepreneurial skills through accounting knowledge. CO3 encourages employability through effective presentation skills. CO4 encourages employability by developing essential office skills. CO6 encourages employability by developing proficiency in essential applications. CO7 encourages employability by preparing for various office automation jobs.

PO11: Ethical and Social Responsibility:

CO1, CO2, CO4, and CO7 are associated with ethical and social responsibility. CO1 and CO7 promote ethical responsibility in maintaining accurate records and office automation tasks. CO2 promotes ethical standards in accounting practices. CO4 promotes ethical responsibility in managing office tasks. CO7 promotes ethical responsibility.

PO13: Teamwork:

CO1, CO4, and CO7 are strongly mapped with teamwork. CO1 encourages teamwork in documentation projects. CO4 and CO7 encourage teamwork in office environments.

PO14: Area Specific Expertise:

CO2, CO5, and CO6 are strongly mapped with area-specific expertise. CO2 provides area-specific expertise in accounting. CO5 provides area-specific knowledge in creating various types of documents. CO6 provides area-specific expertise in computer applications.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)
Programme Code : UBCA
Class : F.Y. BBA (C.A)
Semester : I
Course Type : VSC
Course Code : BCA-121-VSC
Course Title : Networking
No. of Credits : 02
No. of Teaching Hours : 30

Course Objectives:

1. To understand various computer networks and technologies behind networks
2. To study TCP/IP suite.
3. To study routing concept along with Routing protocols
4. To understand wireless networking concepts and protocols
5. To become familiar with layered communication architectures (OSI and TCP/IP).
6. Understand the concepts of reliable data transfer and how TCP implements these concepts.
7. To understand data transmission across the network through protocols.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Understand various computer networks and technologies behind networks.
CO2. Learn TCP/IP suite.
CO3. Learn routing concept along with Routing protocols.
CO4. Get knowledge of wireless networking concepts and protocols.
CO5. Get knowledge of layered communication architectures.
CO6. Understand the concepts of reliable data transfer and working of TCP
CO7. Understand data transmission across the network through protocols.

	Topics and Learning Points	Teaching Hours
UNIT 1:	**Introduction to Data Communication and Computer Networks** 1.1 Overview of Basic Concepts and Components. Data Communication Characteristic, Data Representation, Data Flow, Network Criteria, Physical Structures and Topologies, Network Types- LAN, MAN, WAN 1.2 Internet 1.2.1 Concept of Intranet & Extranet 1.2.2 Internet Information Server (IIS) 1.2.3 World Wide Web(WWW) 1.2.4 Search Engine 1.2.5 Internet Service Providers (ISP) 1.3 Various types of Networks (only overview) 1.3.1 Connection Oriented N/W's Vs Connectionless N/W' 1.3.2 Ethernet 1.3.3 Wireless LAN	**06**
UNIT 2:	**Principles of Layering Concept** 2.1 Need for Layering 2.2 ISO-OSI 7 Layer Model 2.3 TCP/IP Model 2.4 Comparison of ISO-OSI&TCP/IP Model 2.5 Physical Communication: 2.5.1 Hardware Architecture 2.5.2 Transmission Media (Guided and Unguided i.e. Twisted Pair, Coaxial Cable, Fiber Optics, Wireless Transmission etc.) 2.5.3 Communication Devices 2.5.4 Switching and its Types (Circuit Switching, Message Switching, Packet Switching)	**10**
UNIT 3:	**IP Addressing & Routing** 3.1 Internet Protocol and IPv4 Packet Format 3.2 Addressing, Physical Addresses, Logical Addresses Port Addresses, Specific Addresses 3.3 IP Address- Network Part and Host Part 3.4 Network Masks, Network Addresses and, Broadcast Addresses, Loop Back Address 3.5 Address Classes 3.6 TCP and UDP Connections 3.7 Overview of IPv6 Notes: Examples based on IP addressing to be covered	**08**
UNIT 4:	**Network Applications** 4.1 Hyper Text Transfer Protocol (HTTP), HTTP Communications –HTTP request, Request, Headers, Responses, Status Code, Error Status Code 4.2 Email- Sending & Receiving Email, Email, Addressing, Message Structure, SMTP – Simple Mail Transfer Protocol, POP – Post Office Protocol, IMAP- Internet Message Access Protocol, FTP- File Transfer Protocol	**06**

References:

1. Data Communications and Networking – Behrouz A. Forouzan, Fourth Edition TMH, 2006
2. Computer Networks -- Andrew S Tanenbaum, 4th Edition, Pearson Education.
3. Computer Networking: A Top-Down Approach Featuring the Internet,James F.Kurose, K.W.Ross, 3rd Edition,Pearson Education.
4. Computer and Communication Networks, Nader F. Mir, Pearson Education
5. An Engineering Approach to Computer Networks-S.Keshav, 2nd Edition,Pearson Education

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA

Course: Networking **Course Code:** BCA-121-VSC

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

	Programme Outcomes (POs)														
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO 1	3	3			3		3							3	
CO 2	3	3			3		3							3	
CO 3	3	3	3		3					3				3	
CO 4	3	3			3					3				3	
CO 5	3	3			3					3				3	
CO 6	3	3	3		3					3				3	
CO 7	3	3	3		3					3				3	

PO1: A Fundamental Knowledge and Coherent Understanding:

All COs are strongly mapped to fundamental knowledge and understanding. CO1 provides fundamental knowledge of computer networks. CO2 and CO7 provide broad multidisciplinary knowledge of the TCP/IP suite and data transmission. CO3 provides fundamental expertise in routing and routing protocols. CO4 and CO6 provide fundamental knowledge of wireless networking and reliable data transfer. CO5 provides broad, multidisciplinary knowledge of layered architectures.

PO2: Procedural Knowledge for Skill Enhancement:

All COs are strongly mapped as procedural knowledge for skill enhancement.CO1 enhances procedural knowledge of networking technologies. CO2, CO3, and CO6 enhance procedural knowledge of the TCP/IP protocols and routing concepts. CO4 and CO5 enhance procedural knowledge of wireless protocols and communication architectures. CO7 enhances procedural knowledge of network protocols.

PO3: Critical Thinking and Problem-Solving Skills:

CO3, CO6, and CO7 are strongly mapped as critical thinking and problem-solving skills. CO3 develops critical thinking and problem-solving skills in routing. CO6 and CO7 develop critical thinking and problem-solving skills in data transfer and data transmission.

PO5: Analytical Reasoning Skills:

All COs are strongly mapped to analytical reasoning skills. CO1 and CO2 strengthen analytical reasoning in evaluating network technologies and understanding the TCP/IP suite. CO3, CO4, and CO6 strengthen analytical reasoning in evaluating routing protocols and understanding wireless

networking. CO5 strengthens analytical reasoning in understanding layered architectures. CO7 strengthens analytical reasoning in understanding network.

PO7: Multidisciplinary Competence:

CO1 and CO2 strongly mapped as Demonstrates multidisciplinary competence in understanding technologies and networking protocols.

PO10: Design and Development of System:

CO3, CO4, CO5, CO6, and CO7 are strongly mapped to the design and development of systems. CO3 and CO4 encourage the design and development of routing solutions and wireless network solutions. CO5 and CO6 encourage the design and development of communication systems and reliable data transfer solutions. CO7 encourages the design and development of data transmission solutions protocols.

PO14: Area Specific Expertise:

All COs are strongly mapped for area-specific expertise. CO1 and CO2 provide area-specific expertise in computer networks and TCP/IP protocols. CO3 provides area-specific expertise in routing and protocols. CO4 and CO5 provide area-specific expertise in wireless networking and layered communication architectures. CO6 and CO7 provide area-specific expertise in TCP and reliable data transfer, data transmission, and protocols.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)

Programme Code : UBCA

Class : F.Y. BBA (C.A)

Semester : I

Course Type : SEC

Course Code : BCA-126-SEC

Course Title : MS-Excel Skills for Business

No. of Credits : 02

No. of Teaching Hours : 60

Course Objectives:

1. To Master the skills of working with: diagrams, Microsoft Excel and sorts
2. To build a solid understanding on the Basics of Microsoft Excel.
3. To learn how to use this software confidently
4. To understand the fundamental functions of Excel: the user interface of Excel, the basic terminology of Excel.
5. To enhance students' problem-solving and decision-making skills by using Excel to analyse data, identify trends, and make data-driven business decisions.
6. To apply Excel skills to real-world business scenarios, such as financial modelling, budgeting, forecasting, and creating professional reports and dashboards.
7. To teach students advanced Excel functions and formulas, such as VLOOKUP, HLOOKUP, IF statements, and nested functions, to solve complex problems and automate tasks.

Course Outcomes:

By the end of the course, students will be able to:

CO1. Students will be able to navigate the Excel interface, use basic functions, and perform simple calculations.

CO2. Students will demonstrate the ability to organize, sort, and filter data effectively in Excel.

CO3. Students will apply complex formulas and functions to solve business-related problems.

CO4. Students will create and customize charts and graphs to represent business data visually.

CO5. Students will implement data validation techniques to ensure data accuracy and consistency.

CO6. Students will create instructional materials such as lesson plans and educational charts using Excel.

CO7. Students will conduct basic statistical analyses relevant to educational research and assessment.

Topics and Learning Points	Teaching Hours

UNIT 1: Introduction to MS- Excel: **04**

1.1 Introduction
1.2 What is MS-Excel?
1.3 Why Should I Learn Microsoft Excel?
1.4 How to Open Microsoft Excel?
1.5 Understanding the Ribbon
1.6 Understanding the worksheet
1.7 Customization Microsoft Excel Environment
1.8 Important Excel shortcuts
1.9 Printing and Protecting Worksheet

UNIT 2: Modifying a worksheet in an MS-Excel: **05**

2.1 Modifying operations on worksheet
2.2 Moving and Copying Data in an Excel Worksheet
2.3 Inserting and Deleting Rows and Columns, Range
2.4 Changing the Width and Height of Cells
2.5 Hiding and Un hiding Excel Rows and Columns
2.6 Renaming an Excel Worksheet
2.7 Deleting an Excel Worksheet
2.8 Moving and Copying Formulas
2.9 Cell and Edit Commands

UNIT 3: Formatting Data in an Excel Worksheet **05**

3.1 Formatting Data Commands in Excel
3.2 Working with Font Formatting Commands
3.3 Changing the Background Color of a Cell
3.4 Adding Borders to Cells
3.5 Excel Cell Borders Continued
3.6 Formatting Data as Currency Values
3.7 Formatting Percentages
3.8 Using Excel's Format Painter
3.9 Creating Styles to Format Data
3.10 Merging and Centering Cells
3.11 Using Conditional Formatting
3.12 Editing Excel Conditional Formatting

UNIT 4: Data Validation in MS-Excel **05**

4.1 Data Validation Operations:
4.1.1 Data validation
4.1.2 Data filters
4.1.3 Group and Ungroup
4.1.4 Adding images to spreadsheets

UNIT 5: MS-Excel Formulas and Function **06**

5.1 Basic of formulas and function:
- 5.1.1 What is Formulas in Excel?
- 5.1.2 Mistakes to avoid when working with formulas in Excel
- 5.1.3 What is Function in Excel?
- 5.1.4 The importance of functions

5.2 Formulas and Functions in an Excel:
- 5.2.1 Common functions: SUM,MIN,MAX,AVARAGE,COUNT,LEN,SUMIF,AVARAGEIF,DAYS, NOW
- 5.2.2 Numeric Functions: ISNUMBER,RAND,ROUND,MEDIAN,PI,POWER,MOD
- 5.2.3 String functions:- LEFT,RIGHT,MID,ISTEXT,FIND,REPLACE,CONCATENATE
- 5.2.4 Date Time functions: DATE,DAYS,MONTH,MINUTE,YEAR
- 5.2.5 Lookup function VLOOKUP,HLOOKUP
- 5.2.6 Logical functions: IF,AND,OR

Unit6 Creating Basic Charts in an MS-Excel **05**

6.1 What is a chart?
6.2 Types of Charts in MS Excel.
6.3 The importance of charts
6.4 Working with the MS-Excel Chart Ribbon
- 6.4.1 Adding and Modifying Data on an MS-Excel Chart
- 6.4.2 Formatting an MS-Excel Chart

References:

1. Excel Formulas and functions 2020: the step by step excel Guide with example by ADAM RAMIREZ.
2. Simple Excel Functions by Bryan Crosland.
3. Excel 2019 All-In-One:Master the new features of excel 2019 By Lokesh Lalwani..
4. Microsoft excel 2019: Data Analysis and Business Model, 6th edition By Winston Wayne.
5. Excel for Beginners by M.L. Humphrey, independently published.
6. Excel All-in-One For Dummies (For Dummies (Computer/Tech) by Paul McFedriel.
7. Excel 2019 Bible , 1th edition by Michael Alexander, Wiley pub.

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA

Course: MS-Excel Skills for Business **Course Code:** BCA-126-SEC

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

	Programme Outcomes (POs)														
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO 1	3	3													
CO 2	3				3										
CO 3			3											3	
CO 4	3									3					
CO 5					3										3
CO 6	3													3	
CO 7												3			3

***PO1.* A Fundamental Knowledge and Coherent Understanding:**

CO1, CO2, CO4, and CO6 are strongly mapped as fundamental knowledge and understanding. CO1provide Excel interface and basic functions aligned with acquiring broad multidisciplinary knowledge, particularly in computer applications. CO2 provides organizing, sorting, and filtering data to enhance multidisciplinary knowledge, linking to fields like accounting and management. CO4 helps to create charts and graphs to by visualizing data for various fields like marketing and management. CO6 Creating instructional materials connects in education and computer Application.

PO2: Procedural Knowledge for Skill Enhancement:

CO1 is strongly mapped for procedural knowledge for skill enhancement. CO1 helps to navigate the Excel interface require procedural knowledge for skill enhancement in using software tools.

PO3: Critical Thinking and Problem-Solving Skills:

CO3 is strongly mapped as to apply complex formulas and functions to solve business-related problems and develop critical thinking and problem-solving skills.

***PO5*: Analytical Reasoning Skills:**

CO2 effectively organizing data strengthens analytical reasoning skills by evaluating data relevance and reliability and CO5 help to data validation techniques involving analytical reasoning to ensure data accuracy.

PO10: Design and Development of System:

CO4 is strongly mapped as designing and customizing charts involves system design skills to meet specific needs.

PO12: Research-Related skills:

CO7 is strongly mapped as conducting basic statistical analyses relate directly to acquiring research-related skills and understanding methodologies.

PO14: Area Specific Expertise:

CO3 and CO6 are strongly mapped for solving business problems with Excel applies specific concepts and theories from areas like Accounting and Finance.CO6 helps to designing educational charts using Excel applies area-specific expertise in educational content creation.

PO15: Environmental Awareness:

CO5 and CO7 are strongly mapped for performing data validation help manage environmental risk by ensuring accurate data on environmental factors.CO7 perform statistical analyses of educational research data that contribute to environmental awareness by evaluating impacts on education quality.

CBCS Syllabus as per NEP 2020 for F.Y. BBA (Computer Application) (2023 Pattern)

Name of the Programme : BBA (Computer Application)
Programme Code : UBCA
Class : F.Y. BBA (C.A)
Semester : I
Course Type : IKS
Course Code : BCA-137-IKS
Course Title : Indian Innovations in Computer and Technology
No. of Credits : 02
No. of Teaching Hours : 30

Course Objectives:

1. Creating awareness amongst the youths about the true history and rich culture of the country
2. Understanding the scientific value of the tradition and culture of the Bhārata
3. Promoting the youths to do research in the various fields of Bhāratīya knowledge tradition
4. Converting the Bhāratīya wisdom into the applied aspect of the modern scientific paradigm
5. Adding career, professional and business opportunities to the youths.
6. To provide students with an understanding of the historical development of computer technology in India, highlighting key milestones and contributions.
7. To assess the impact of Indian innovations in computer technology on society and the economy, including the role of technology in addressing local and global challenges.

Course Outcomes:

It is expected that after completing this course the students would be quite aware of the rich and versatile knowledge system and cultural heritage of Bhārata. They will be clear about the following points:

CO1. The knowledge system was developed during the Vedic period, the Saraswatī-Sindhu Civilization, the Middle ages and practiced knowingly or unknowingly till date

CO2. In Bhārata, a special attention was given to the reasons of ideas occurrence, and connection with the concept of material world, and religious, social, and cultural beliefs.

CO3. Bhārata was quite advanced in arts, literature, music, dance, drama, and all other spheres of life including aeronautics, science, astronomy, mathematics, life science, medical science, and architecture.

CO4. Awareness amongst the youths about the true history and rich culture of the country.

CO5. The youth will be an individual with a great sense of patriotism and nation-pride.

CO6. The youths will be self-motivated to do research in the various fields of Bhāratīya knowledge tradition.

CO7. The students would be able to convert Bhāratīya wisdom into the applied aspect of the modern scientific paradigm.

	Topics and Learning Points	Teaching Hours
UNIT 1:	**Bhāratīya Civilization and Development of Bhartiya Knowledge System** 1.1 Genesis of the land, Antiquity of civilization, On the Trail of the Lost River 1.2 Discovery of the Saraswatī River, the Saraswatī-Sindhu Civilization 1.3 Traditional Knowledge System 1.4 The Vedas, Main Schools of Philosophy(6+3) 1.5 Ancient Education System 1.6 the Takṣaśilā University 1.7 the Nālandā University 1.8 Alumni 1.9 Knowledge Export from Bhārata.	**08**
UNIT 2:	**Ancient Bhartiya Contribution towards Science & Mathematics** 2.1 Concept of Matter 2.2 Life and Universe, Gravity 2.3 Sage Agastya's Model of Battery 2.4 Velocity of Light 2.5 Vimāna: Aeronautics 2.6 Vedic Cosmology and Modern Concepts, hāratīyaKāla-gaṇanā, 2.7 Kerala School for Mathematics and 2.8 Astronomy, History and Culture of Astronomy, Sun, Earth, Moon, and Eclipses 2.9 Earth is Spherical and Rotation of Earth, 2.10 Archaeostronomy 2.11 Concepts of Zero and Pi,Number System, Pythagoras Theorem, and Vedic Mathematics.	**08**
UNIT3:	**Ancient Bhartiya Engineering, Technology & Architecture** 3.1 Pre-Harappan and Sindhu Valley 3.2 Civilization, Laboratory and Apparatus, Juices, Dyes,Paints and Cements, Glass and Pottery, Metallurgy, 3.3 Engineering Science and Technology in the Vedic Age and Post-Vedic Records,	**08**

3.4 Iron Pillar of Delhi, Rakhigarhi, Mehrgarh,
3.5 Sindhu Valley Civilization,
3.6 Marine Technology, and Bet–Dwārkā**.**

UNIT4: Evolution in Computer and Indian Contribution in Computer and Technology **06**

4.1 Early Computing Devices,
4.2 generations of computer,
4.3 evolutions of programming Languages
4.4 Indian contribution in computer and technology:
4.4.1 Pentium chip by Vinod Dham,
4.4.2 Hotmail by Sabeer Bhatia,
4.4.3 Universal Serial Bus (USB) by Ajay Bhatt,
4.4.4 Fibre Optics by Dr. Narinder Singh Kapany,
4.4.5 first supercomputer by Vijay Bhatkar,
4.5 Major information technology hubs in india,
4.6 Major data centre hubs in india,

References:

1. Textbook on The Knowledge System of Bhārata by Bhag Chand Chauhan, Under Publication (2021).
2. History of Science in India Volume-1, Part-I, Part-II, Volume VIII, by Sibaji Raha, et al. National Academy of Sciences, India and The Ram krishan Mission Institute of Culture,Kolkata (2014).
3. History of Science in India Volume-1, Part-I, Part-II, Volume VIII, by Sibaji Raha, et al.National Academy of Sciences, India and The Ram krishan Mission Institute of Culture,Kolkata (2014).
4. Pride of India- A Glimpse of India's Scientific Heritage edited by Pradeep Kohle et al.Samskrit Bharati (2006).

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

Mapping of Program Outcomes with Course Outcomes

Class: FYBCA (Sem I) **Subject**: BCA

Course: Indian Innovations in Computer and Technology **Course Code:** BCA-137-IKS

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

	Programme Outcomes (POs)														
Course Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**	**PO15**
CO 1	3	3												3	
CO 2	3			3										3	
CO 3	3						3							3	
CO 4	3							3	3						
CO 5								3			3				
CO 6	3					3						3			
CO 7	3									3				3	

***PO1.* A Fundamental Knowledge and Coherent Understanding:**

CO1 Students gain a broad multidisciplinary knowledge encompassing historical development.CO2 Enhances multidisciplinary knowledge and understanding of cultural and social beliefs.CO3 Provides fundamental knowledge across multiple disciplines, including arts and sciences.CO4 Enhances fundamental knowledge of Bhārata's history and culture.CO6 provides a fundamental knowledge base for independent research.CO7 Links traditional knowledge with modern scientific understanding.

PO2: Procedural Knowledge for Skill Enhancement:

CO1 is strongly mapped as Enhancing procedural knowledge and deep understanding of historical context.

PO4: Communication Skills:

CO2 is strongly mapped as to improve communication skills by understanding and discussing historical and cultural ideas.

PO6: Innovation, Employability and Entrepreneurial Skills:

CO6 is strongly mapped as Encourages innovation and entrepreneurial skills through independent research.

PO7: Multidisciplinary Competence:

CO3 is strongly mapped as demonstrates acquisition of multidisciplinary competence.

PO8: Value Inculcation through Community Engagement:

CO4 and CO5 are strongly mapped as encourages community engagement and promotes well-being through cultural awareness. Promotes constitutional, humanistic, ethical, and moral values through community engagement.

PO9: Traditional Knowledge into Modern Application:

CO4 is strongly mapped as Connects traditional knowledge systems with modern professional domains.

PO10: Design and Development of System:

CO7 is strongly mapped as to develop efficient solutions for complex real-world problems by integrating traditional wisdom.

PO11: Ethical and Social Responsibility:

CO5 is strongly mapped as to encourage ethical and social responsibility, fostering a sense of national pride.

PO12: Research-Related skills:

CO6 is strongly mapped to develop research-related skills and methodology.

PO14: Area Specific Expertise:

CO1 CO2 CO3 and CO7 are strongly mapped as Area Specific Expertise.CO1 Provides specific expertise in the traditional knowledge systems of Bhārata. CO2 Deepens specific expertise in cultural studies and historical contexts.CO3 Links traditional knowledge systems with modern scientific and cultural applications.CO7 Applies specific expertise in traditional knowledge to modern scientific paradigms.