



**M.C.E. Society's
ABEDA INAMDAR SENIOR COLLEGE OF ARTS, SCIENCE AND
COMMERCE (AUTONOMOUS), PUNE**

AZAM CAMPUS, CAMP, PUNE – 411001

Syllabus of B.B.A (C.A)

Applicable for the Autonomous College Affiliated to

Savitribai Phule Pune University

B.B.A (C.A) Degree Course (Choice Based Credit System)

(2021 Pattern)

With effect from June 2021

Title of the Course: B.B.A (C.A)

Preamble

B.B.A (C.A) is a three year degree program spread over 6 semesters with a wide range of Computer Technologies, Commerce and Management subjects. B.B.A (C.A) Course endeavors to achieve a balance between theoretical foundation and practical experience. The different core, elective subjects and a wide range of value added course helps the students to build an all-round personality to successfully face the challenges of a professional career and good communication skills.

Program objectives:

1. To acquire the basic knowledge of Computer Technologies, Commerce and Management skills.
2. To impart experiential learning and provide practical exposure on the subjects to survive in IT industry.
3. To develop social and ethical values for employability through various skills.
4. To prepare students to pursue higher education and build their professional qualification.

Program outcomes

1. The benefits of a degree course can help you assess the potential of the degree, and how it will help you in your career. The following are some of the benefits of the BBA in computer application degree:
2. **Tech Skills & Soft Skills** – in your BBA (CA) education, your tech skills and soft skills will be honed and recruiters actively for candidates with both.
3. **Job Opportunities** – This degree will make you a highly employable professional, and the job offers will start coming in from the moment you become a graduate.
4. **Tech-based Careers** – Expats predict that tech-based careers are going to be the most popular careers in the future resulting in great potential and job security.
5. **Salary & Benefits** – The BBA in computer application degree course will get you careers that come with a good salary and benefits package.
6. **Stepping Stone for Higher Learning** – After graduating BBA in computer application, you can opt for postgraduate courses like MBA, MCA, PGDM, and PGD

Titles of Papers, Credit Allocation and Scheme of Evaluation

Semester I (Total Credits=21)

Course Type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CIE	SEE	Total
CC	21CBCA111	Business and Professional Skills	3	-	40	60	100
CC	21CBCA112	Principles of Management	3	-	40	60	100
CC	21CBCA113	Programming in C	3	-	40	60	100
CC	21CBCA114	Database Management System	3	-	40	60	100
CC	21CBCA115	Business Statistics	3	-	40	60	100
Pr	21CBCA116	Computer Laboratory Based on 113 (2 credits)	-	2	20	30	100
		Computer Laboratory Based on 114(2 credits)	-	2	20	30	
SEC	21CBCA117 M	Entrepreneurship Development (30 Hours)	2	-	20	30	50

Note:

- Physical Education to be conducted in Sem-I, Code for the same is 21CPE11M2.

Semester II (Total Credits=21)

Course Type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CIE	SEE	Total
CC	21CBCA121	Human Resource Management & Organizational Behavior	3	-	40	60	100
CC	21CBCA122	Advance C	3	-	40	60	100
CC	21CBCA123	Business Mathematics	3	-	40	60	100
CC	21CBCA124	Relational database management System	3	-	40	60	100
CC	21CBCA125	Web Technology HTML-JS-CSS	3	-	40	60	100
Pr	21CBCA126	Computer Laboratory Based on 124 (2 credits)	-	2	20	30	100
		Computer Laboratory Based on 122 & 125 (2 credits)	-	2	20	30	
SEC	21CBCA127 M	Financial Accounting & Computerized Accounting (30 Hours)	2	-	20	30	50

Note:

- **Democracy, Election and Governance to be conducted in Sem-II, Code for the same is 21CDG12M2.**

Semester III (Total Credits=23)

Course Type	Paper Code	Paper title	Credits		Evaluation		
			T	P	CIE	SEE	Total
CC	21CBCA231	Digital Marketing	3	-	40	60	100
CC	21CBCA232	Data Structure Using C	3	-	40	60	100
CC	21CBCA233	Software Engineering	3	-	40	60	100
EC	21CBCA234A	Elective Course Paper –I (Any One) Angular JS	3	-	40	60	100
	21CBCA234B	PHP					
EC	21CBCA235A	Elective Course Paper –II (Any One) Big data	3	-	40	60	100
	21CBCA235B	Block chain					
Pr	21CBCA236	Computer Laboratory Based on 232 (2 credits each)	-	2	15	20	100
		Computer Laboratory Based on 234 (2 credits each)	-	2	15	20	
		Computer Laboratory Based on 235 (2 credits each)	-	2	10	20	
AECC	21CBAEEV23	Environmental Science Awareness Course	2	-	20	30	50

Note:

- **Departmental SEC Course - Self Employment Techniques with practical approach Or JQuery to be conducted in Sem-III Code for the same is 21CVAD02.**

Semester IV (Total Credits=22)

Course Type	Paper Code	Paper title	Credits			Evaluation		
			T	P	Pj	CIE	SEE	Total
CC	21BCA241	Networking	3	-	-	40	60	100
CC	21BCA242	Object Oriented Programming (C++)	3	-	-	40	60	100
CC	21BCA243	Operating System	3	-	-	40	60	100
EC		Elective Course Paper	3	-	-	40	60	100
		(Any One)						
	21BCA244A	NODE JS						
	21BCA244B	Advance PHP						
Pj	21BCA245	Project	-	-	4	40	60	100
Pr	21BCA246	Computer Laboratory Based on 242 (2 credits)	-	2	-	20	30	100
		Computer Laboratory Based on 244 (2 credits)	-	2	-	20	30	
SEC	21BCA247M	Internet Of Things(IOT) (30 Hours)	2	-	-	20	30	50

Semester V (Total Credits=22)

Course Type	Paper Code	Paper title	Credits			Evaluation		
			T	P	Pj	CIE	SEE	Total
CC	21CBCA351	Cyber Security	3	-	-	40	60	100
CC	21CBCA352	Object Oriented Software Engineering(OOSE)	3	-	-	40	60	100
CC	21CBCA353	Core Java	3	-	-	40	60	100
EC	21CBCA354A	Elective Course Paper (Any One) Mongo DB	3	-	-	40	60	100
	21CBCA354B	Python						
Pj	21CBCA355	Project	-	-	4	40	60	100
Pr	21CBCA356	Computer Laboratory Based on 353 (2 credits)	-	2	-	20	30	100
		Computer Laboratory Based on 354(2 credits)	-	2	-	20	30	
SEC	21CBCA357M	Data Science(30 Hours)	2	-	-	20	30	50

Semester VI (Total Credits=23)

Course Type	Paper Code	Paper title	Credits			Evaluation		
			T	P	Pj	CIE	SEE	Total
CC	21BCA361	Data Mining and Data Warehouse	3	-	-	40	60	100
CC	21BCA362	Human Computer Interaction (HCI)	3	-	-	40	60	100
CC	21BCA363	Advanced Java	3	-	-	40	60	100
EC	21BCA364A 21BCA364B	Elective Course Paper (Any One)	3	-	-	40	60	100
		Android Programming Dot Net Framework						
Pj	21BCA365	Project	-	-	4	40	60	100
Pr	21BCA366	Computer Laboratory Based on 363(2 credits)	-	2	-	20	30	100
		Computer Laboratory Based on 364(2 credits)	-	2	-	20	30	
SEC	21BCA367M	Soft Skills Training (30 Hours)	2	-	-	20	30	50

SEMESTER I



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F.Y.B.B.A (C.A) Business and Professional Skills

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Business and Professional Skills
Course Code	21CBCA111
Semester	I
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To understand what is the role of communication in personal and business world
2.	To understand organizational system, organizational communication and their utility
3.	To develop proficiency in how to write business letters and other communications in required business communication
4.	To develop ability to maintain business style and professional image

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	To understand and implement effective communication methods.
2.	To understand forms of communication and to develop ability to use it according to required situation.
3.	Ability to understand business correspondence and types of business letters
4.	Ability to maintain and improve business style and professional image.

Syllabus

Unit. No	Title with Contents	No. of Lectures
Unit I	Introduction to Communication	12
	1. Meaning and definition of Communication	2
	2. Need for effective communication	2
	3. Role of Communication in social and economic system	2
	4. Principles of effective communication	3
	5. Barriers to communication and over comings	3
Unit II	Methods and types of Communication	14
	1. Written communication as Methods and types of Communication	3
	2. Forms of written communication.	3
	3. Qualities of written communication	2
	4. Constrains in developing effective written communication	3
	5. Merits and Limitations of written communication	3
Unit III	Business Correspondence	14
	1. Concept of Business Correspondence	2
	2. Need and functions of Business Correspondence	2
	3. Types of Business letters	2
	4. Layout Drafting of business letters	2
	5. Sales Letter	2
	6. Orders letter sales circulars and business promotion letters	2
	7. Writing business emails	2
Unit IV	Business Style & Professional Image	14
	1. Dress Code under Business Style & Professional Image	7
	2. Guideline for business attire :	
	i. Differentiate among the casual semiformal formal & black tie dress code grooming for success multicultural dressing.	7

Book References:

1. Meenakshi Raman, Prakash Singh, “Business Communication”, Oxford.
2. Homai Pradhan , N.S. Pradhan, “Business Communication”, Himalaya Publishing House.
3. R.K. Madhukar, ”Business Communication”, Vikas Publishing House.
4. Biswajit Das. Ipswta Satpathy, ”Business Communication and personality Development”, 3rd Edition, Excel Books.
5. P.D Chaturvedi, Mukesh Chaturvedi , ”Business Communication – Concepts, Cases and applications”, 5th Edition, Dorling Kindersley.
6. Hory Sankar Mukerjee, ”Business Communication – Connecting at work”, 9th Edition , Oxford.
7. Courtland L. Bovee, John V. Thill, Abha Chatterjee, ”Business Communication Today”, 2nd Edition, Pearson.
8. Eileen Scholes, ”Hand Book of internal Communication”, 1st Edition, Infinity Books.
9. Linda B., Iris V., ”Intercultural Communication in the Global Workplace”, 10th Edition , Tata McGraw Hills.

Website Reference Link:

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- https://www.truro-penwith.ac.uk/downloads/TPCB_pbs_brochure_low_res.pdf
- https://www.researchgate.net/publication/303894905_Professional_skills_in_management_and_leadership_entrepreneurship_and_communication_-_the_e-PROFMAN_project
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- https://www.sagepub.com/sites/default/files/upm-binaries/36955_1.pdf
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F.Y.B.B.A (C.A) Principles of Management

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Principles of Management
Course Code	21CBCA112
Semester	I
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To understand basic concept of Organization and Business Administration
2.	To examine various Management Principles
3.	To develop Managerial skills among the students

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Remembering, Understanding nature of management.
2.	Remembering, understanding the concept of managerial thoughts and contribution by management philosopher
3.	Understanding and Applying Managerial functions. Use of Planning, Forecasting, Decision-Making Organizing and Staffing in Management
4.	Understanding and Applying Managerial functions and use of Direction, Motivation, Decentralization and control and its use in Management

Syllabus

Unit. No.	Title with Contents	No. of Lectures
Unit I	Nature of management	12
	<ol style="list-style-type: none"> 1. Meaning of management 2. Importance of management 3. Functions of management 4. Types of Management. 5. Management as an art 6. Science and social system 7. Universality of concept of Management and Organization 	<p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>1</p> <p>1</p>
Unit II	Evolution of management thoughts	14
	<ol style="list-style-type: none"> 1. Concept of managerial thoughts <ol style="list-style-type: none"> i. Contribution of Taylor ii. Contribution of Mayo iii. Contribution of Fayol iv. Contribution of Drucker. 2. Indian Management Ethos 	<p>7</p> <p>7</p>
Unit III	Major managerial Functions I	14
	<ol style="list-style-type: none"> 1. Planning: <ol style="list-style-type: none"> i. Need of Planning ii. Types of Planning iii. Methods of Planning iv. Advantages of Planning v. Merits of Planning 2. Forecasting: <ol style="list-style-type: none"> i. Need of Forecasting ii. Types of Forecasting iii. Methods of Forecasting 	<p>4</p> <p>4</p>

	<ul style="list-style-type: none"> iv. Advantages of Forecasting v. Merits of Forecasting <p>3. Decision making:</p> <ul style="list-style-type: none"> i. Types of Decision making ii. Process and techniques of Decision making <p>4. Organizing:</p> <ul style="list-style-type: none"> i. Concept of Organizing ii. Delegation of authorities and responsibilities of Organizing <p>5. Staffing:</p> <ul style="list-style-type: none"> i. Need types of Staffing ii. Methods of Staffing iii. Advantages of Staffing 	<p>2</p> <p>2</p> <p>2</p>
Unit IV	Major managerial Functions II	14
	<p>1. Directions:</p> <ul style="list-style-type: none"> i. Nature and principles of Directions <p>2. Motivation:</p> <ul style="list-style-type: none"> i. Nature principles and theories of Motivation <p>3. Decentralization:</p> <ul style="list-style-type: none"> i. Concepts and importance of Decentralization <p>4. Control:</p> <ul style="list-style-type: none"> i. Need types of Control ii. Methods of Control iii. Advantages of Control iv. Merits of Control <p>5. Control Techniques</p> <ul style="list-style-type: none"> i. PERT - Program Evaluation and Review Technique of control ii. CPM - critical path method Technique of control 	<p>2</p> <p>3</p> <p>3</p> <p>3</p> <p>3</p>

Book References:

1. J.S. Chandan, "Management Concepts and Strategies", Vikas Publishing House Pvt. Ltd.
2. Harold Koontz , Heinz Weihrich , A. Ramachandra Arysri, "Principles of Management", 5th Edition, McGraw Hill.
3. Heinz Weihrich , Mark V. Cannice , Harold Koontz, "Management A Global and Entrepreneurial Perspective" ,9th Edition, McGraw Hill.
4. Robert Kreitner , Mamata Mohapatra, "Management – 2008 Edition " ,4th Edition, Biztantra – Management For Flat World.
5. John R. Schermerhorn, "Introduction to Management " ,13th Edition, Wiley India Pvt. Ltd.
6. P.C. Tripathi , P.N. reddy, "Principles of Management " ,10th Edition, McGraw Hill.
7. R. SatyaRaju , A. Parthasarthy, "Management Text and Cases" ,9th Edition, PHI learning Pvt. Ltd.
8. H. R. Appannaiah , G. Dinakar , H.A. Bhaskara, "Management (Multi-Dimensional Approach)" ,9th Edition, Himalaya Publishing House.

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- https://www.tutorialspoint.com/management_principles/management_principles_tutorial.pdf
- <https://ncert.nic.in/ncerts/l/lebs102.pdf>
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- https://ebooks.lpude.in/commerce/bcom/term_1/DCOM102_DMGT101_PRINCIPLES_AND_PRACTICES_OF_MANAGEMENT.pdf
- https://www.researchgate.net/publication/281801296_Henry_Fayol's_14_Principles_of_Management_Implications_for_Libraries_and_Information_Centres
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F.Y.B.B.A (C.A) Programming in C
2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Programming in C
Course Code	21CBCA113
Semester	I
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	The course aims to provide exposure to problem-solving through programming
2.	It aims to train the student to the basic concepts of the C-programming language.
3.	This course involves a lab component which is designed to give the student hands-on experience with the concepts.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Identify situations where computational methods and computers would be useful.
2.	Given a computational problem, identify and abstract the programming task involved.
3.	Approach the programming tasks using techniques learned and write pseudo-code.
4.	Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand.
5.	Write the program on a computer, edit, compile, debug, correct, recompile and run it.
6.	Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task

Syllabus

Unit No	Title with Contents	No. of Lectures
Unit I	Programming Languages as Tools	02
	<ol style="list-style-type: none"> 1. Machine language 2. Assembly language 3. High level languages 4. Compilers and Interpreters 	<p style="text-align: center;">1</p> <p style="text-align: center;">1</p>
Unit II	Fundamentals of C language	08
	<ol style="list-style-type: none"> 1. Introduction of Flowcharts and Algorithms with examples 2. History 3. Basic structure of C Programming 4. Language fundamentals <ol style="list-style-type: none"> i. Character set, tokens ii. Keywords and identifiers iii. Variables and data types 5. Operators <ol style="list-style-type: none"> i. Types of operators ii. Precedence and associativity 6. Expression 	<p style="text-align: center;">2</p> <p style="text-align: center;">1</p> <p style="text-align: center;">2</p> <p style="text-align: center;">2</p> <p style="text-align: center;">1</p>
Unit III	Managing I/O operations	04
	<ol style="list-style-type: none"> 1. Console based I/O and related built-in I/O functions <ol style="list-style-type: none"> i. printf(), scanf() ii. getch(), getchar() 	<p style="text-align: center;">2</p> <p style="text-align: center;">2</p>
Unit IV	Decision Making and looping	12
	<ol style="list-style-type: none"> 1. Introduction 2. Decision making structure <ol style="list-style-type: none"> i. If statement ii. If-else statement iii. Nested if-else statement 	<p style="text-align: center;">1</p> <p style="text-align: center;">5</p>

	<ul style="list-style-type: none"> iv. Conditional operator v. Switch statement <p>3. Loop control structures</p> <ul style="list-style-type: none"> i. while loop ii. Do-while loop iii. For loop iv. Nested for loop <p>4. Jump statements</p> <ul style="list-style-type: none"> i. break, continue, goto and exit 	4
Unit V	Arrays and Strings	16
	<p>1. Introduction to one-dimensional Array</p> <ul style="list-style-type: none"> i. Definition ii. Declaration iii. Initialization <p>2. Accessing and displaying array elements</p> <p>3. Finding smallest and largest number from array</p> <p>4. Reversing array</p> <p>5. Finding odd/even/prime number from array</p> <p>6. Introduction to two-dimensional Array</p> <ul style="list-style-type: none"> i. Definition ii. Declaration iii. Initialization <p>7. Accessing and displaying array elements</p> <ul style="list-style-type: none"> i. Addition, Multiplication, ii. Transpose, Symmetry, iii. upper/lower triangular <p>8. Introductions to Strings</p> <ul style="list-style-type: none"> i. Definition ii. Declaration iii. Initialization 	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p> <p>4</p> <p>4</p>

	iv. Standard library functions	1
	9. Implementations without standard library functions	
Unit VI	Functions	12
	1. Introduction	
	i. Purpose of function	
	ii. Function definition	4
	iii. Function declaration	
	iv. Function call	
	2. Types of functions	
	i. Call by value	3
	ii. Call by reference	
	3. Recursion	3
	4. Storage Classes	2

Book References:

1. Y.S.Kanetkar, "Let Us C", 17th Edition, BPB Publications.
2. E.Balaguruswamy, "Programming in ANSI C", 2nd Edition, Tata Mc-Graw Hill Publishing Co Ltd.
3. K. N. King, "C Programming: Modern Approach", 2nd Edition, W. W. Norton & Company.
4. Greg Perry and Dean Miller, "C Programming Absolute Beginner's Guide", 3rd Edition, Kindle eTextbook Store.
5. Mike McGrath, "C Programming in easy steps", 5th Edition, McGraw Hill Education.

Website Reference Link:

- https://www.tutorialspoint.com/cprogramming/c_quick_guide.htm
- <https://www.geeksforgeeks.org>
- <https://www.javatpoint.com/c-programming-language-tutorial>

Best IDE used for C-Programming:

Sr. No	Name of IDE or Tools	Latest Version
1.	Turbo C	3.2/3.3
2.	Microsoft Visual Studio Code	1.56
3.	NetBeans	12.4



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F.Y.B.B.A (C.A) Database Management System

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Database Management System
Course Code	21CBCA114
Semester	I
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To provide a sound introduction to the discipline of database management system as a subject.
2.	To give an introduction to systematic design approaches covering conceptual, logical and physical view
3.	To present the concepts and techniques relating to query processing using SQL

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Understand and effectively explain the concepts of database technologies.
2.	Design and implement a database schema for give problem domain and normalize database

Syllabus

Unit No	Title with Contents	No. of Lectures
Unit I	File Structure and Organization	08
	1. Introduction, Logical and Physical Files <ul style="list-style-type: none"> i. File ii. File Structure iii. Logical and Physical Files Definitions 	2
	2. Basic File Operations <ul style="list-style-type: none"> i. Opening Files ii. Closing Files iii. Reading and Writing iv. Seeking 	2
	3. File Organization <ul style="list-style-type: none"> i. Field and Record structure in file ii. Record Types iii. Types of file organization <ul style="list-style-type: none"> a. Sequential b. Indexed c. Hashed 	2
	4. Indexing <ul style="list-style-type: none"> i. What is an Index? ii. When to use Indexes? iii. Types of Index <ul style="list-style-type: none"> a. Dense Index b. Sparse Index 	2
Unit II	Database Management System	14
	1. Introduction of Basic Concept and Definitions DBMS <ul style="list-style-type: none"> i. Data and Information ii. Data Vs Information iii. Data Dictionary 	3

	<ul style="list-style-type: none"> iv. Data Item or Field v. Record 	
	2. Definition of DBMS	1
	3. Applications of DBMS	1
	4. File processing system Vs DBMS	1
	5. Advantages and Disadvantages of DBMS	1
	6. Users of DBMS	
	<ul style="list-style-type: none"> i. Database Designers ii. Application programmer iii. Sophisticated Users iv. End Users 	1
	7. Views of Data	1
	8. Data Models	
	<ul style="list-style-type: none"> i. Object Based Logical Model ii. Object Oriented Data Model iii. Entity Relationship Data Model iv. Record Base Logical Model v. Relational Model vi. Network Model vii. Hierarchical Model 	2
	9. Entity Relationship Diagram(ERD)	1
	10. Extended features of ERD	1
	11. Overall System structure	1
Unit III	Relational Model	12
	1. Introduction	1
	2. Terms	
	<ul style="list-style-type: none"> i. Relation ii. Tuple iii. Attribute iv. Cardinality 	2

	<ul style="list-style-type: none"> v. Degree of relationship set vi. Domain <p>3. Keys</p> <ul style="list-style-type: none"> i. Super Key ii. Candidate Key iii. Primary Key iv. Foreign Key <p>4. Relational Algebra Operations</p> <ul style="list-style-type: none"> i. Select ii. Project iii. Union iv. Difference v. Intersection vi. Cartesian Product vii. Natural Join 	<p>4</p> <p>5</p>
Unit IV	SQL (Structured Query Language)	12
	<p>1. Introduction</p> <p>2. History Of SQL</p> <p>3. Basic Structure</p> <p>4. DDL Commands</p> <p>5. DML Commands</p> <p>6. Simple Queries</p> <p>7. Nested Queries</p> <p>8. Aggregate Functions</p>	<p>1</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>1</p> <p>1</p> <p>1</p>
Unit V	Relational Database Design	08
	<p>1. Introduction</p> <p>2. Anomalies of un normalized database</p> <p>3. Normalization</p> <p>4. Normal Form</p> <ul style="list-style-type: none"> i. 1 NF ii. 2 NF 	<p>1</p> <p>2</p> <p>2</p> <p>3</p>

	iii. 3 NF iv. 4 BCNF	
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1. By Henry korth, “Database System”, 6th Edition, Silberschatz.
2. Ivan Bayross ,”SQL, PL/SQL the Programming Language Oracle”, 4th Edition,BPB Publication.
3. Shio Kumar Singh, “Database Systems Concepts”, 3rd Edition, Pearson.
4. Reck F. van der Lans, “Introduction to SQL”, 4th Edition,Pearson.
5. Jeffery A Hoffer, “Modern Database Management”, 5th Edition, Pearson.
6. Debabrata Sahoo,”Database Management Systems”, 6th Edition, Tata.

Website Reference Link:

- https://docs.oracle.com/cd/E11882_01/server.112/e40540/intro.htm
- https://docs.oracle.com/cd/E11882_01/server.112/e40540/tablecls.htm#CNCPT010
- https://docs.oracle.com/cd/E11882_01/server.112/e40540/indexiot.htm#CNCPT721

Best IDE used for DBMS:

Sr No	Name of IDE or Tool	Latest Version
1.	Oracle	10g
2.	Eclipse	10



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F.Y.B.B.A. (C.A.) Business Statistics

(CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Business Statistics
Course Code	21CBCA115
Semester	I
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To enrich students' knowledge and train them in Business Statistics.
2.	To present the importance of Statistics in various business situations to the students.
3.	To acquaint students with some basic concepts in Statistics
4.	To familiarize students with elementary statistical methods of analysis of data
5.	To develop skills related with basic statistical technique.
6.	To acquaint students with the correlation and regression analysis and data interpretation

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Students will be acquainted with the importance of Statistics in business processes.
2.	Students will become aware about the reasonable working knowledge of Statistics in the business set-up.
3.	Students will be acquainted with the basic data analysis tools and Interpretation of the results.

Syllabus

Unit No	Title with Contents	No. of Lectures
Unit I	Concept of Statistics	13
	1. Role of Statistics in informatics business science.	2
	2. Tabulation, Data Condensations and tabulation.	2
	3. Data Condensations and graphical methods: Raw data, attributes and variables, classification.	2
	4. Frequency distribution, cumulative frequency distributions.	3
	5. Graphs- Histograms, Frequency polygon, Diagrams- Multiple bar, Pie, Subdivided bar.	4
Unit II	Measure of Central Tendency	13
	1. Criteria for good measures of central tendency.	2
	2. Arithmetic mean, Median and Mode for grouped data,	8
	3. Combined mean.	3
Unit III	Measure of Dispersion	14
	1. Concept of dispersion.	1
	2. Absolute and relative measure of dispersion.	2
	3. Range, Variance.	3
	4. Standard deviation,	3
	5. Coefficient of variation.	2
	6. Quartile Deviation, Coefficient of Quartile Deviation.	3
Unit IV	Correlation & Regression (for ungrouped data)	14
	1. Concept and meaning of Correlation, Types of correlation.	2
	2. Karl Pearson correlation coefficient,	4
	3. Regression- Concept and meaning of regression, line of regression equation of Y on X (Y-Dependent variable, X-Independent variable).	6
	4. Regression coefficients, properties of regression coefficients.	2

Text book:**1. Mathematical Statistics-J.N. Kapur and H.C. Saxena S. Chand Publication 20th Edition, New Delhi**

Unit-I Chapter 1 (Sec 1.1 to 1.3)

Unit-II Chapter 2 (Sec 2.1 to 2.3)

Unit-III Chapter 3 (Sec 3.1 to 3.2.5)

Unit-IV Chapter 10 (Sec 10.1 to 10.4)

Book References:

1. J.N. Kapur and H.C. Saxena S. Mathematical Statistics. Sultan Chand and Sons Publishers, New Delhi.
2. Girish Phatak. Business Statistics. Tech – Max Pune.
3. Dr. S. K. Khandelwal. Statistics for Business. International Book House New Delhi.
4. J.K. Sharma. Fundamentals of Business Statistics. Pearson New Delhi.
5. G.C. Beri. Business Statistics. McGraw-Hill companies New Delhi.
6. R.S. N. Pillai Bagavathi. Statistics Theory and Practice. Sultan Chand and Sons Publishers, New Delhi.
7. Dr. S. K. Khandelwal. Statistics for Managerial decision Making. International Book House New Delhi.
8. Ken Black. Business Statistics For Contemporary Decision Making. Wiley India Edition New Delhi.
9. S.C. Gupta. Fundamentals of Statistics. Himalaya Publication House.

Website Reference Link:

- www.stats.unipune.ac.in/100 Datasets for Statistics Education by Dr. Anil P. Gore, Dr. Mrs. S. A. Paranjpe and Madhav B. Kulkarni available in ISPS folder].
- www.freestatistics.tk(NationalStatisticalAgencies)
- www.psychstat.smsu.edu/sbk00.htm(Onlinebook)
- www.statweb.calpoly.edu/bchance/stat-stuff.html
- www.amstat.org/publications/jse/jse-data-archive.html(International journal on teaching and learning of statistics)

- www.amstat.org/publications/chance(Chance magazine)
- www.statsci.org/datasets.html(Datasets)
- www.math.uah.edu/stat(Virtual laboratories in Statistics)
- www.amstat.org/publications/stats(STATS:the magazine for students of Statistics)
- www.stat.ucla.edu/cases (Case studies in Statistics)



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F.Y.B.B.A (C.A) Computer Laboratory Based on 113 (2 credits)

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Computer Laboratory Based on 113 (2 credits)
Course Code	21BCA116
Semester	I
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To study various data types, arrays, strings and functions in C.
2.	To learn briefly the concept of Decision Making and looping.
3.	To understand built-in library functions.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Explain use of appropriate data types, control statements.
2.	Write programs using Array, String and function.
3.	Use Pre-processor directives.
4.	Demonstrate ability to use top-down program design.

Best IDE used for C-Programming:

Sr. No	Name of IDE or Tools	Latest Version
1.	Turbo C	3.2/3.3
2.	Microsoft Visual Studio Code	1.56
3.	NetBeans	12.4

Assignment No	Assignment Name	No. of Sessions
1	Assignment based on Data types and operators	1
2	Assignment based on Input and Output operation	1
3	Assignment based on if and if-else	2
4	Assignment based on Switch	2
5	Assignment based on Loop	2
6	Assignment based on Array and String	2
7	Assignment based on Function	2
	Total Number of Sessions	12



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2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Computer Laboratory Based on 114 (2 credits)
Course Code	21CBCA116
Semester	I
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To understand the database concepts.
2.	To learn DBMS and solve problems.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Students are able to create table by using Normalization concepts.
2.	Students are able to write DDL Command. (Create, Alter, Drop)
3.	Students are able to write DML command. (Insert ,Update and Delete)

Best IDE used for DBMS:

Sr No	Name of IDE or Tool	Latest Version
1.	Oracle	10g
2.	Eclipse	10

Assignment No	Assignment Name	No. of Sessions
1	Assignment on DDL Command(Table Creation)	1
2	Assignment on DDL Command(Alter and Drop table)	2
3	Assignment on DDL Command(Insert ,update and Delete)	2
4	Assignment on Table creation with constraint	2
5	Assignment on Select command	1
6	Assignment on SQL Set operation	2
7	Assignment on Join	2
	Total Number of Sessions	12



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F.Y.B.B.A (C.A) Entrepreneurship Development

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Entrepreneurship Development
Course Code	21CBCA117M
Semester	I
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To Create entrepreneurial awareness among the students.
2.	To Help students to develop their entrepreneurial competence.
3.	To Develop Knowledge and understanding in creating and managing new Venture.
4.	To help students to up bring their own business plan.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Remembering, Understanding Abilities regarding concept and functions of entrepreneurship
2.	Understanding business plan, ability to make Business Plan.
3.	Understanding Institutional Support to New Venture Ability to take advantage of Institutional Support.

Syllabus

Unit. No	Title with Contents	No. of Lectures
Unit I	Entrepreneur and Entrepreneurship:	12
	1. Definition meaning and functions of an entrepreneur	2
	2. Need and importance of entrepreneurship	2
	3. Problem of unemployment & importance of wealth creation.	2
	4. Enterprise v/s Entrepreneurship	2
	5. Self-employment v/s Entrepreneurship	2
	6. Entrepreneurial career as an option.	2
Unit II	Business Plan:	12
	1. Meaning and Importance of Business Plan	1
	2. Objectives of Business Plan	1
	3. Selections Contents of Business Plan	1
	4. Marketing and Technical Feasibility of Business Plan	1
	5. Financial Viability of Business Plan	1
	6. Precautions to be taken by entrepreneur while preparing Business Plan	1
	7. Project Appraisal under Business Plan	1
	8. Break even Analysis and Ratio Analysis under Business Plan	1
	9. Debt Service Coverage Ratio under Business Plan	1
	10. Gross Profit under Business Plan	1
	11. Net Profit Ration and Return on Investment (ROI) under Business Plan	2
Unit III	Institutional Support to New Venture:	12
	Student are expected to study the assistance scheme of the following Institutions:	

	i. Institutional Support to New Venture by District Industries Center (DIC)	3
	ii. Institutional Support to New Venture by Maharashtra Center for Entrepreneurship Development (MCED)	3
	iii. Institutional Support to New Venture by National Small Industries Corporation of India (NSIC)	2
	iv. Institutional Support to New Venture by Maharashtra Industrial Development Corporation (MIDC)	2
	v. Institutional Support to New Venture by Micro Small and Medium Enterprises (MSME)	

Book References:

1. Desai Vasant, "Management of Small Scale Industries", Himalaya Publishing House.
2. Taneja Satish and Gupta S.L., "Entrepreneurship Development – New Venture Creations – Galgotia Publishing Company", McGraw hill companies.
3. Heinz Wehrich , Mark V. Cannice , "Management A Global and Entrepreneurial Perspective", Harold Koontz.
4. Chandra P, "Preparation, Appraisal and Implementation", McGraw hill companies.
5. Jain P.C., "Handbook for New Entrepreneurs", Entrepreneurship Development Institute of India.
6. Gupta C.B. & Srinivas, "Entrepreneurial Development", 15th Edition Sultan D, Chand & sons.
7. Prof. Rajeev Roy, "Entrepreneurship, 2nd Edition", Oxford University Press.
8. Edward D. Bono, "The New Business Road tests", 12th Edition, Sultan D, Chand & sons.

Website Reference Link:

- https://www.iare.ac.in/sites/default/files/lecture_notes/IARE_Entrepreneurial_Development_NOTES.pdf
- <https://ncert.nic.in/ncerts/l/lebs213.pdf>
- <https://www.slideshare.net/esmatullahamini1/entrepreneurial-developmentbook-pdf>
- https://www.academia.edu/10068660/ENTREPRENEURSHIP_DEVELOPMENT
- https://www.researchgate.net/publication/340085218_Entrepreneurship_Development_Key_to_Economic_Development_of_a_Nation
- <http://depintegraluniversity.in/userfiles/Entrepreneurship%20Development.pdf>
- <http://www.sasurieengg.com/e-course-material/MBA/II-Year-Sem-3/BA7032%20ENTREPRENEURSHIP%20DEVELOPMENT.pdf>
- <http://www.ddegjust.ac.in/studymaterial/bba/bba-301.pdf>
- <https://easyengineering.net/entrepreneurship-development-senthil/>

SEMESTER II



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F.Y.B.B.A (C.A) Human Resource Management & Organizational Behavior

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Human Resource Management & Organizational Behavior
Course Code	21CBCA121
Semester	II
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To aid students understand basic concept of HRM & OB
2.	To aware students about traditional & modern methods of procurement & development in organization.
3.	To acquaint students on the major trends in HRM & OB

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Effectively manage and plan key Human Resource and Organizational Behavior functions within organizations.
2.	Develop competence of Problem-solving in the field of Human Resource.
3.	Demonstrate an understanding of current issues, trends, practices, and processes in Organizational Behavior.

Syllabus

Unit. No.	Title with Contents	No. of Lectures
Unit I	Introduction to Human Resource Management	10
	<ol style="list-style-type: none"> 1. Definition & Concepts 2. Scope & Importance 3. Functions, Objectives & Limitations 4. Role of Human Resource Manager 5. Areas in which Human Resource Manager can be of assistance 	<p>1</p> <p>2</p> <p>3</p> <p>2</p> <p>2</p>
Unit II	Introduction to Organisational Behaviour	14
	<ol style="list-style-type: none"> 1. Definition, Concept and Scope 2. Models of Organisational Behaviour 3. Major trends in Organisational Behaviour <ol style="list-style-type: none"> i. Total Quality management, ii. Cultural diversity iii. Change Management iv. Resistance to change v. Methods to overcome Resistance to Change 4. Stress Management <ol style="list-style-type: none"> i. Sources of Stress ii. Effects of Stress & Stress Management iii. Work life Balance and Quality of Life 	<p>1</p> <p>2</p> <p>6</p> <p>5</p>
Unit III	Planning and Procurement of Human Resource	14
	<ol style="list-style-type: none"> 1. Human Resources Planning (HRP) <ol style="list-style-type: none"> i. Concept and Definition ii. Merits, Demerits and Process iii. Influencing factors of HRP 2. Recruitment <ol style="list-style-type: none"> i. Concept and Definition ii. Sources of Recruitment iii. Methods of Recruitment iv. E-recruitment 	<p>4</p> <p>5</p>

	3. Selection i. Concepts and Definition ii. Selection Process iii. Types of Interviews and guidelines iv. E- Selection	5
Unit IV	Training & Development and Performance Appraisal	08
	1. Training & Development i. Concept and Definition ii. Importance and Methods iii. Recent trends in Training 2. Performance Appraisal i. Concept and Importance ii. Methods of Performance Appraisal	4
		4
Unit V	Case Studies	08
	Case Studies on Organisational Behaviour	2
	Case Studies on Recruitment and Selection	2
	Case Studies on Training & Development	2
	Case Studies on Performance Appraisal	2

Book References:

1. L.M. Prasad (2014). Human Resources Management (3rd ed.) Sultan and Chand Publishing Company, Third edition
2. K. Ashwathappa (2017). Human Resources Management (8th ed). Tata McGraw Hill
3. C. B. Mamoria. Personnel Management (2nd Ed). Tata McGraw Hill
4. K. Ashwathappa(2016). Organisational Behaviour -Text, Cases and Games (12th ed).Tata McGraw Hill
5. L.M. Prasad (2014). Organizational Behaviour (5th ed). Sultan and Chand Publishing Company Fifth edition

Website Reference Link:

- <https://acronyms.thefreedictionary.com/OBHRM>
- http://www.tmv.edu.in/pdf/Distance_education/BCA%20Books/BCA%20VI%20SEM/BCA-629%20OB.pdf
- <https://2012books.lardbucket.org/pdfs/an-introduction-to-organizational-behavior-v1.1.pdf>
- <https://www.ebsglobal.net/EBS/media/EBS/PDFs/Organisational-Behaviour-Course-Taster.pdf>
- https://www.macmillanihe.com/resources/sample-chapters/9781137429445_sample.pdf
- <https://brauss.in/hrm-basic-notes.pdf>
- <http://www.dspmuranchi.ac.in/pdf/Blog/abcdefgmailcomunit%2011.pdf>
- http://www.opentextbooks.org.hk/system/files/export/32/32088/pdf/Human_Resource_Management_32088.pdf
- <http://www.uou.ac.in/sites/default/files/slm/HM-204.pdf>



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F.Y.B.B.A (C.A) Advance C

(CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Advance C
Course Code	21CBCA122
Semester	II
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To study advanced concepts of programming using the 'C' Language.
2.	To understand code organization with complex data types and structures.
3.	To work with files and graphics.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Easy to develop our own data types also helpful in data structures.
2.	To create own macros for the constant values.
3.	Creating different types of files using different file functions.
4.	Easy to handle memory management.
5.	Students can make their own mini projects using graphics.
6.	Students will be able to understand how to interact with computer hardware by using different libraries in C.

Syllabus

Unit. No.	Title with Contents	No. of Lectures
Unit I	Structures	08
	1. Introduction to Structures 2. Definition 3. Declaration 4. Accessing Members 5. Structure operations 6. Nested Structures	 2 2 2 2
Unit II	Pointer	10
	1. Definition and Concept 2. Advantage of using pointer 3. Pointer arithmetic 4. Array of pointers 5. Pointers and Functions 6. Dynamic Memory Allocation	1 1 2 3 3
Unit III	Union and Enumeration	08
	1. Union <ol style="list-style-type: none"> i. Definition, Syntax. 2. Working with union 3. Initializing union 4. Advantages of union 5. Structures versus union 6. Advantages of union	2 2 4
Unit IV	File handling	10
	1. File <ol style="list-style-type: none"> i. Definition ii. File Opening Modes iii. Types of files - text and binary, 2. Functions: fopen(), fclose(), fgetc(), fputc(), fgets(), fputs(), fscanf(), fprintf(), getw(), putw(), fread(), fwrite(), fseek(),ftell() etc.	1 2 1 2

	3. File Management <ul style="list-style-type: none"> i. Opening/Closing a File ii. Input/output operations on Files iii. Error Handling During I/O Operations iv. Command Line Arguments 	4
Unit V	Graphics programming	06
	1. Introduction of graphics	2
	2. Graphical functions	2
	3. Simple Programs	2
Unit VI	Hardware Interfacing with C	12
	1. Introduction <ul style="list-style-type: none"> i. The C Standard(s) 	1
	2. Embedded C <ul style="list-style-type: none"> i. Fundamentals ii. Fixed-Width 	2
	3. Integers <ul style="list-style-type: none"> i. Binary Data Manipulation ii. Fixed and Floating Point Math iii. Performance Improvement iv. Data Storage and Lifetimes v. The World Before main() 	4
	4. Interrupt Handling <ul style="list-style-type: none"> i. Interrupt Service Routines ii. Vector Tables iii. Hardware Hurdles iv. Disabling Interrupts v. Interrupt Latency 	5

Book References:

1. Schildt Herbert, "C: The Complete Reference (Tata McGraw Hill Edition)", McGraw Hill.
2. Behrouz A. Forouzan, Richard F. Gilberg, "A Structured Programming Approach Using C (Third Edition 2007)", Cengage Learning India.
3. Brian Kernighan, Dennis Ritchie, "The 'C' programming language (Second Edition), PHI.
4. Ajay Mittal, Pearson, "Programming in C (First Edition 2010)", Cengage Learning India.
5. B. Gottfried, "Programming with C (Fourth Edition)", Tata McGraw Hill.
6. E. Balagurusamy, "Programming in ANSI C (Seventh Edition)", McGraw Hill
7. Yashwant Kanetkar, "Let Us C (15th Edition 2016)", BPB.

Website Reference Link:

- Wikipedia: [https://en.wikipedia.org/wiki/C_\(programming_language\)](https://en.wikipedia.org/wiki/C_(programming_language))
- Open Source: <https://opensource.com>
- <https://www.tutorialspoint.com/cprogramming/index.htm>

IDE or Tools used for Advance C

Sr.No	Name of IDE or Tool	Latest Version
1.	Turbo C	3.2/3.3
2.	Microsoft Visual Studio Code	1.56
3.	NetBeans	12.4



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F.Y.B.B.A (C.A) Business Mathematics
(CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Business Mathematics
Course Code	21CBCA123
Semester	II
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To understand role and importance of Mathematics in various business situations and while developing software.
2.	To develop skills related with basic mathematical technique.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Demonstrate mastery of mathematical concepts that are foundational in business mathematics, including functions and their mappings, linear systems and their solutions.
2.	Demonstrate an understanding of basic marketing mathematics by solving relevant problems, including trade discounts, cash discounting, and markup and markdown calculations.
3.	Apply the principles of simple interest to solve relevant problems in financial applications such as simple-interest-based loans.
4.	Use the principles of compound interest to solve relevant problems in financial applications, for example, those involving annuities, loans and mortgages, bonds and sinking funds, and investment decisions.

Syllabus

Unit. No	Title with Contents	No. of Lectures
Unit I	Ratio and Proportion	03
	1. Ratio	1
	2. Proportion	2
Unit II	Trade Discount and Bankers Discount	07
	1. Profit and loss.	1
	2. Discount	2
	3. Commission	2
	4. Brokerage	2
Unit III	Interest and Annuity	08
	1. Simple Interest and Compound Interest	2
	2. Equated Monthly Installment (EMI) by interest of reducing balance and flat interest methods.	1
	3. Ordinary Annuity.	1
	4. Sinking funds.	1
	5. Annuity due.	1
	6. Present value and future value of annuity.	2
Unit III	Shares and Mutual Funds	10
	1. Concepts of shares.	1
	2. Face value and Market value	1
	3. Dividend	2
	4. Equity Shares	1
	5. Preferential Shares	1
	6. Bonus Shares	1
	7. Change in Net Asset Value	1
	8. Systematic Investment Plan (SIP).	1
	9. Concept of Mutual Funds	1
Unit IV	Matrices and Determinants	12
	1. Definition of matrices and types of Matrices	2
	2. Algebra of matrices	2
	3. Determinant of matrices	3
	4. System of equations	2
	5. Solution of system of linear equations by adjoint method (upto 3 variables only)	3

Unit-V	Linear Programming Problem (LPP) and Transportation Problem	14
	1. Concept of LPP.	1
	2. Formulation of LPP.	2
	3. Solution of LPP by graphical method	2
	4. Concept of Transportation Problem	1
	5. Initial Basic Feasible Solution	1
	6. North West Corner Method	2
	7. Least Cost Method (LCM)	2
	8. Vogel's Approximation Method	3

Textbooks:

- 1. Business Mathematics**-Dr. S.M. Shukla, Dr. R.R. Sharma, Sahitya Bhawan Publications, Agra.
Unit I: Chapter 8, Chapter 9.
Unit II: Chapter 13.
Unit III: Chapter 10, Chapter 11, Chapter 12.
Unit IV: Chapter 1, Chapter 2, Chapter 3.
- 2. Mathematical and Statistical Techniques**- Dr. Abhilasha S. Magar, Manohar B. Bhagirath Himalaya Publishing House (First Edition 2015)
Unit IV: Chapter-1
- 3. Operation Research**- Prem Kumar Gupta, Dr. D.S. Hira
Unit V: Chapter 2: Sec. 2.1, 2.2, 2.3, 2.6, 2.9, 2.10 Chapter 3: Sec.3.1, 3.2, 3.3, 3.5 up to Vogel's Approximation Method (VAM)).

Reference Books:

- 1. A Textbook of Business Mathematics** (for B.Com and BBA courses of all Indian Universities) – Dr.Padmalochan Hazarika, S Chand and Company Limited



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F.Y.B.B.A (C.A) RDBMS (Relational Database Management System)

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	RDBMS (Relational Database Management System)
Course Code	21CBCA124
Semester	II
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	Enables students to understand relational database concepts and transaction management concepts in database system.
2.	Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.
3.	Enable students to manage the concurrent transaction and Recovery System.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcomes
1.	Students will able to understand various RDBMS products, difference between DBMS and RDBMS and to get knowledge of Front End and Back end.
2.	Students will able to write PL/SQL programs using Exception Handling, Views, procedure, function, cursor, trigger and package.
3.	Students will able to understand Transaction Concepts, How to reduce the waiting time and recover the transaction from failure.
4.	Students will able to understand concept of concurrency and how to resolve issues during concurrent execution of transactions.
5.	Students learn different type of failure and recover the data from that failure.

Syllabus

Unit No	Title with Contents	No. of Lectures
Unit I	Introduction To RDBMS	02
	1. Introduction to popular RDBMS product and their features	01
	2. Difference Between DBMS and RDBMS	01
	3. Relationship among application programs and RDBMS	
Unit II	PLSQL	20
	1. Overview of PLSQL	01
	2. Data Types	01
	3. PLSQL Block	04
	i. % type, % rowtype	
	ii. Operators, Functions, comparison, numeric, character, date	
	iii. Control Statement	02
	4. Exception Handling	
	i. Predefined	
	ii. User defined exceptions	01
	5. Views	04
	6. Functions , Procedures	
	7. Cursor	03
	i. Definition	
	ii. Types of cursor- implicit, explicit (attributes)	
	iii. Parameterized cursor	02
	8. Trigger	02
	9. Package	
Unit III	Transaction Management	12
	1. Transaction Concept	01
	2. Transaction Properties	02
	3. Transaction States	
	4. Concurrent Execution	02
	5. Serializability	02
	i. Conflict Serializability	

	ii. View Serializability	02
	6. Recoverability	03
	i. Recoverable Schedule	
	ii. Cascade less Schedule	
Unit IV	Concurrency Control	10
	1. Lock Based Protocol	02
	i. Locks	
	ii. Granting of Locks	
	iii. Two Phase Locking Protocol	
	2. Timestamp Based Protocol	03
	i. Timestamp	
	ii. Timestamp ordering protocol	
	iii. Thomas's Write Rule	01
	3. Validation Based Protocol	04
	4. Deadlock Handling	
	i. Deadlock Prevention	
	ii. Deadlock Detection	
	iii. Deadlock Recovery	
Unit V	Recovery System	10
	1. Failure Classification	02
	i. Transaction Failure	
	ii. System Crash	
	iii. Disk Failure	
	2. Recovery & Atomicity	04
	i. Log based Recovery	
	ii. Deferred Database Modification	
	iii. Immediate Database Modification	
	iv. Checkpoints	
	3.Recovery with Concurrent Transaction	04
	i. Transaction Rollback	
	ii. Restart Recovery	

Book References:

1. Silberschatz, Korth, Sudershan, "Database System Concepts", 5th Edition, McGraw-Hill.
2. Bipin Desai, "Database Management System", 4th Edition, Galgotia Publication.
3. C. J. Date, A. Kannan, S. Swamynathan, "An Introduction to Database Systems", 8th Edition, Pearson's Publication.
4. Ivan Bayross, "SQL/PLSQL the programming language of oracle", 4th Revised Edition, BPB Publication.

Website Reference Link:

- <https://docs.oracle.com/database/121/LNPLS/toc.htm>
- <https://www.tutorialspoint.com/plsql/index.htm>
- <https://www.techonthenet.com/oracle/index.php>https://www.w3schools.com/sql/sql_intro.asp
- <https://www.geeksforgeeks.org/sql-tutorial/>

Best IDE used for RDBMS (Relational Database Management System)

Sr. No	Name of IDE or Tool	Latest Version
1.	Oracle	10g
2.	Eclipse	10



M. C. E. Society's

Abeda Inamdar Senior College

Of Arts, Science and Commerce, Camp, Pune-1

(Autonomous) Affiliated to Savitribai Phule Pune University

NAAC accredited 'A' Grade

**F.Y.B.B.A (C.A) Web Technology HTML – JS – CSS
2021-22 (CBCS – Autonomy 21 Pattern)**

Course/ Paper Title	Web Technology HTML – JS – CSS
Course Code	21CBCA125
Semester	II
No. of Credits	3

Objectives of the Course

Sr. No.	Objectives
1.	To study Internet basics, Internet Protocols and concepts of effective web design.
2.	To know & understand concepts of Making your own Web page.
3.	To learn and implement style sheets.
4.	To understand how to develop web pages using JavaScript.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Students will become aware about the role of Web developers in IT fields.
2.	The students will develop understanding about designing their own web pages.
3.	Student will be able to build dynamic web pages using JavaScript.

Syllabus

Unit. No	Title with Contents	No. of Lectures
Unit I	Introduction	12
	1. Internet-Basic <ul style="list-style-type: none"> i. Web clients and Web servers ii. World Wide Web(WWW) iii. Web site iv. Web browser v. Web Pages vi. Web application vii. Web server viii. Web Publishing 	3
	2. Clients- Servers and Communication	2
	3. Internet Protocols (HTTP, FTP, IP)	2
	4. HTTP Protocol: request message, HTTP response message	1
	5. Concept of effective Web Design. <ul style="list-style-type: none"> i. Look and Feel of the website. ii. Page Layout and linking. iii. User Centric Design iv. Planning and publishing Website v. Designing Effective Navigation 	3
	6. Web design issue including Browser Bandwidth and Cache.	1
Unit II	HTML	15
	1. Introduction to HTML	1
	2. An Introduction to HTML History-Versions	1
	3. Basic HTML Structure	2
	4. Common HTML Tags	1
	5. Physical and Logical HTML	1
	6. Types of Images, client side and server-side Image mapping	2

	7. List, Table, Frames 8. Embedding Audio, Video 9. HTML Block and Inline – div & span tag 10. HTML form and form elements 11. Overview and features of HTML 5.	2 1 1 2 1
Unit III	Style sheets	12
	1. Need for CSS 2. Introduction to CSS 3. Basic syntax and structure 4. Using CSS- <ul style="list-style-type: none"> i. Background images, colors and properties, ii. Manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS 5. Overview and features of CSS2 and CSS3	2 2 2 5 1
Unit IV	JavaScript	15
	1. Introduction to JavaScript 2. Identifier & operator, control structure, functions 3. Document object model(DOM), 4. DOM Objects (window, navigator, history, location) 5. Predefined functions, math & string functions 6. Array in Java scripts 7. Event handling in JavaScript	1 2 2 3 3 2 2

Book References:

1. Thomas Powell, “HTML & CSS: The Complete Reference”, 5th Edition, McGraw Hill.
2. Ivan Bayross, “HTML and JavaScript”, 4th Edition, BPB Publication.
3. Laura Lemay, Rafe Colburn, Jennifer Kyrnin, “Mastering HTML, CSS & JavaScript Web Publishing” ,BPB Publication.
4. Jennifer N. Robbins, “Learning Web Design”, 5th Edition, O’Reilly.
5. Jon Duckett, “HTML and CSS: Design and Build Websites”, 1st Edition, Wiley
6. David Flanagan, “JavaScript Pocket Reference Activate Your Web Pages”, 3rd Edition, O’Reilly.

Website Reference Links

- <https://www.w3schools.com/html/>
- <https://www.tutorialspoint.com/css/index.htm>

Best IDE used for Web Technology HTML – JS – CSS

Sr .No	Name of IDE or Tool	Latest Version
1.	Visual Studio Code	1.57
2.	Notepad++	7
3.	Sublime Text	3



M. C. E. Society's

Abeda Inamdar Senior College

Of Arts, Science and Commerce, Camp, Pune-1

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NAAC accredited 'A' Grade

F.Y.B.B.A (C.A) Computer Laboratory Based on 124 (2 credits)

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Computer Laboratory Based on 124 (2 credits)
Course Code	21CBCA126
Semester	II
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To study basic concepts of Relational database management System.
2.	To understand relational database concepts and transaction management concepts in database system.
3.	To understand how to Enables student to write PL/SQL programs that use: View, procedure, function, package, cursor and trigger.

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Student can be able to write PL/SQL programs using view, procedure, function, package, cursor and trigger.

Best IDE used for RDBMS:

Sr. No.	Name of IDE or Tool	Latest Version
1.	Oracle	10g
2.	Eclipse	10

Assignment No	Assignment Name	No. of Sessions
1	Assignment on Data Types: PL SQL Block and Control Structure	2
2	Assignment on Error and Exception	1
3	Assignment on View	1
4	Assignment on Function	2
5	Assignment on procedure	2
6	Assignment on cursors	2
7	Assignment on Triggers	1
8	Assignment on Package	1
9	Mini Project on RDBMS (10marks)	-.
	Total Number of Sessions	12



M. C. E. Society's

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F.Y.B.B.A (C.A) Computer Laboratory Based on 122 & 125(2 credits)

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Computer Laboratory Based on 122 & 125(2 credits)
Course Code	21CBCA126
Semester	II
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To study basic concepts of web technology.
2.	To understand concept of internet programming.
3.	To understand how to develop web based applications using JavaScript.
4.	To work with files and graphics

Expected Course Specific Learning Outcomes

Sr. No.	Learning Outcome
1.	Implement the given HTML program.
2.	Write programs using CSS.
3.	Use JavaScript concept.
4.	Use structures, union, Pointer and different data types

Best IDE used for HTML and Advance C:

Sr. No	Name of IDE or Tool	Latest Version
1.	Turbo C	3.2/3.3
2.	Notepad++	7

Assignment No	Assignment Name	No. of Sessions
1	Assignment on Basic HTML Tags	1
2	Assignment on Creating List, Tables through HTML	1
3	Assignment on Creating Frames, Forms through HTML	1
4	Assignment on Styling HTML with CSS	2
5	Assignment on JavaScript	1
6	Assignment on structures, Union	2
7	Assignment on Enumeration, Pointers	1
8	Assignment on File handling	2
9	Assignment on graphics programming	1
10	Mini Project on HTML (10 marks)	-
	Total Number of Sessions	12



M. C. E. Society's

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NAAC accredited 'A' Grade

F.Y.B.B.A (C.A) Financial Accounting and Computerized Accounting

2021-22 (CBCS – Autonomy 21 Pattern)

Course/ Paper Title	Financial Accounting and Computerized Accounting
Course Code	21CBCA127M
Semester	II
No. of Credits	2

Objectives of the Course

Sr. No.	Objectives
1.	To develop right understanding regarding role and importance of monetary and financial transactions in business.
2.	To cultivate right approach towards classifications of different transactions and their implications.
3.	To develop proficiency in preparation of basic financial accounting statements.

Expected Course Specific Learning Outcome

Sr. No.	Learning Outcome
1.	Understand and apply fundamental accounting concepts, principles and conventions.
2.	Ability to understand and analyze Financial statements. Ability to Record basic accounting transactions and prepare annual financial statements.
3.	Understanding role of computers in Financial accounting. Understanding accounting Software packages.

Syllabus

Unit. No	Unit Title and Contents	No. of Lectures
Unit I	Introduction to Financial Accounting	12
	1. Definition of Financial Accounting	3
	2. Scope of Financial Accounting	3
	3. objectives of Financial Accounting	2
	4. Accounting concepts of Financial Accounting	2
	5. principles and conventions of Financial Accounting	2
Unit II	Accounting Transactions and Final Accounts	12
	1. Voucher system in Accounting Transactions	1
	2. Accounting Process in Accounting Transactions	1
	3. Journals Ledger in Accounting Transactions	1
	4. Cash Book in Accounting Transactions	1
	5. subsidiary books in Accounting Transactions	1
	6. Trial Balance in Accounting Transactions	1
	7. Preparation of Final Accounts of Sole Proprietorship (Trading and Profit & Loss Account and Balance Sheet)	6
Unit III	Computerized Accounting	12
	1. Role of computers and Financial applications	4
	2. Introduction to Accounting Software packages:	8
	i. Tally ERP software of Computerized Accounting	
	ii. QuickBooks software of Computerized Accounting	
	iii. Xerox software of Computerized Accounting	
	iv. Sage Intact software of Computerized Accounting	

Book References:

1. S.N. Maheshwari & S.K. Maheshwari, “Advance Accounting Vou- I”, 1st edition, Vikas Publication.
2. M.C. Shukla, T.C. Grewal, S.C Gupta, “Advance Accounting Vou- I“, 19th Edition ,S. Chand.
3. S. Kr. Paul, “Accountancy (Vol- I)” ,1st Edition, Central Educational Enterprises (P). Ltd.
4. Robert N. Anthony, David F. Hawkins, Kenneth A. Merchant, “Accounting (text and Cases)”, 13th Edition, McGraw Hill Companies.
5. Robert N. Anthony, David F. Hawkins, Kenneth A. Merchant, “Advanced Accountancy(Volume – I)”, 15th Edition, Sultan Chand & Sons.

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- <https://www.csus.edu/indiv/c/clarket/course1/chap001.pdf>
- <https://corporatefinanceinstitute.com/resources/ebooks/principles-accounting-book-pdf/>
- <http://gbcramgarh.in/e-learning-study-materials/COMMERCE/RADHA%20MOHAN%20SINGH/chap001.pdf>
- https://ebooks.lpude.in/management/bba/term_2/DMGT104_FINANCIAL_ACCOUNTING.pdf
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