

Savitribai Phule Pune University, Pune

Bachelor of Business Administration (Computer Application)

BBA(CA)

(Under faculty of Commerce & Management)

(To be implemented from Academic year 2019-20)

1. Name of Program: Bachelor of Business Administration (Computer Application)

2. Introduction:

The degree shall be titled as Bachelor of Business Administration (B.B.A.) (Computer Application) under the Faculty of Commerce and Management. First Year B.B.A.(CA) w.e.f. the academic year 2019-2020 , Second Year B.B.A.(CA) II w.e.f. 2020-2021 and Third Year B.B.A.(CA) III w.e.f. 2021-2022

3. Programme Objectives:

- To produce skill oriented human resource.
- To impart practical skills among students.
- To make industry ready resource.
- To bring the spirit of entrepreneurship.

4. Program Structure:

- The Program is of a Three Year (Six semesters) Full Time Degree Program.
- The program shall be based on credit system comprising 132 credits

5. Eligibility for Admission

- A candidate for being eligible for admission to the Degree course in Bachelor of Business Administration – Computer Application shall have passed 12 the Std. Examination (H.S.C. 10 +2) from any stream with English as passing subject and has secured 40% marks at 12thstd.
- Three Years Diploma Course after S.S.C. i.e. 10thStandard of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- Two Years Diploma in Pharmacy after H.S.C., of Board of Technical Education conducted by Government of Maharashtra or its equivalent.
- MCVC

6. Medium of Instruction: English

7. Award of Credits:

- Each course having 3 credits shall be evaluated out of 100 marks and student should secure at least 40 marks to earn full credits of that course.
- Each course with 2 credits for Sem-I & Sem-II, Sem-V & Sem-VI is divided in theory (50%) & practicals (50%) and for Sem-III, IV there will be project subjects studied by students. For all these there will be university evaluation. For Sem-I, II, V & VI (30% Internal & 70% External)
- GPA shall be calculated based on the marks obtained in the respective subject provided that student should have obtained credits for that course.

8. Evaluation Pattern:

- Each course carrying 100 marks shall be evaluated with Continuous Assessment (CA) and University Evaluation (UE) mechanism. Continuous assessment shall be of 30 marks while University Evaluation shall be of 70 marks. To pass in a course, a student has to secure minimum 40 marks provided that he should secure minimum 28 marks in University Evaluation (UE).
- CA shall be based on internal tests (minimum 2 for 20 marks). In addition, for remaining 10 marks a teacher may assign various activities such as home assignments, tutorials, seminars, presentations, group discussion etc, to the students and evaluate accordingly.

9. ATKT Rules:

- A student shall be allowed to keep term for the Second Year, if he/she has a backlog of not more than four theory heads of total number of subjects of the First Year examination, which consist of First & Second Semester.
- A student shall be allowed to keep term for the Third Year, if he/she has no backlog of First year & if he/she has a backlog of not more than four theory heads of total number of subjects of the Second year examination, which consist of Third & Fourth Semester.

Standard of Passing – The programme shall be a full time course and the duration of the programme shall be of three years divided into six Semesters. A candidate is required to obtain 40% marks in Internal Assessment, Projects and Semester end SPPU examination. There will be separate passing for SPPU examination.

10. Method of Evaluation and Evaluation Criteria: - 1. Internal Assessment 30 marks for all theory related subjects 2. Practical and Project will be evaluated separately 3.SPPU - Examination will be 70 marks

1. Instructions for teachers for internal evaluation for 30 Marks - The purpose of internal evaluation is to assess the depth of knowledge, understanding and awareness. For this purpose a teacher is expected to use different evaluation methods in order to have rational and objective assessment of the learners and available resources

The class work will carry 30 marks in each course. Internal Evaluation includes continuous evaluation of a student by adopting variety of techniques such as Assignments, Presentation, Internal examination, Group Discussions , Projects etc.

There shall be Four small projects /Tutorials for internal evaluation as compulsory part of assessment (Semester I ,II ,III and IV)

2. Project Examination

For course on Practical and Project work as per the regular practice there will be Written Report and viva presentation of 100 marks at SPPU level

3. External Examination: - There will be written Examination of 70 marks and 3 hrs duration for every course at the end of each Semester.

Setting of Question Papers (Applicable to theory subjects)

1. A candidate shall have to answer the questions in all the subjects in English only.
2. The question papers shall be framed so as to ensure that no part of the syllabus is left out of study by a candidate.
3. The question paper shall be balanced in respect of various topics outlined in the syllabus.
4. The question papers shall have a combination of long, short answer and MCQ type questions

11. Restructuring of courses –Equivalence and Transitory Provision

The University will conduct examination of old course for next three academic years from the date of implementation of new course.

The candidate of old course will be given three chances to clear his subjects as per the old course and thereafter he will have to appear for the subjects under new course as per the equivalence given to old course.

12. Completion of Degree Program:

A student who earns 132 credits, shall be considered to have completed the requirements of the B.B.A.(CA) degree program and CGPA will be calculated for such student.

1 3. Credit Allocation

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project,

AECC-Ability Enhancement Compulsory Courses, SEC-Skill Enhancement Courses.

Total - 132 Credits for Three years Programme

Sr. No.	Semester	CC – Credit	EC Credit	PR Credit	PJ Credit	AEC C-credit	SEC – Credit	Lectures + Project +add on courses= Total Credits
1	I	15		4			2	15+4+2 =21
2	II	15		4			2	15 +4 +2=21
3	III	9	6	6		2		9+6+6+2=23
4	IV	9	3	4	4		2	9+3+4+4+2=22
5	V	9	3	4	4		2	9+3+4+4+2=22
6	VI	10	3	4	4		2	10+3+4+4+2=23
Total		67	15	26	12	2	10	67+15+26+12+2+10=132

14. Titles of Papers and Scheme of Study for B.B.A. (C.A.) Program

CC-Core Course, EC-Elective Course, PR-Practical, PJ-Project,

AECC-Ability Enhancement Compulsory Courses, SEC-Skill Enhancement Courses.

SEMESTER- I

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-101	Business Communication	CC	3	
CA-102	Principle of Management	CC	3	
CA-103	C Language	CC	3	
CA-104	Database Management System	CC	3	
CA-105	Statistics	CC	3	
CA-106	Computer Laboratory Based on 103 &104 (2 credits each)	PR		4
1	ADD-On (PPA) (30 Hours)	SEC	2	

SEMESTER- II

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-201	Organization Behavior & Human Resource Management	CC	3	
CA-202	Financial Accounting	CC	3	
CA-203	Business Mathematics	CC	3	
CA-204	Relational database	CC	3	
CA-205	Web Technology HTML-JS-CSS	CC	3	
CA-206	Computer Laboratory Based on 204 & 205(2 credits each)	PR		4
2	ADD-On (Advance C) (30 Hours)	SEC	2	

SEMESTER- III

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-301	Digital Marketing	CC	3	
CA-302	Data Structure	CC	3	
CA-303	Software Engineering	CC	3	
CA-304	Angular JS	EC	3	
OR				
CA-304	PHP	EC	3	
CA-305	Big data	EC	3	
OR				
CA-305	Block chain	EC	3	
CA-306	Computer Laboratory Based on 302 , 304 and 305 (2 credits each)	PR		6
3	Environment Awareness	AECC	2	

SEMESTER- IV

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-401	Networking	CC	3	
CA-402	Object Oriented Concepts Through CPP	CC	3	
CA-403	Operating System	CC	3	
CA-404	NODE JS	EC	3	
OR				
CA-404	Advance PHP	EC	3	
OR				
CA-404	Hadoop	EC	3	
CA-405	Project	EC		4
CA-406	Computer Laboratory Based on 402,404 (2 credits each)	PR		4
4	ADD-On (30 Hours)	SEC	2	

SEMESTER- V

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-501	Cyber Security	CC	3	
CA-502	OOSE	CC	3	
CA-503	Core Java	CC	3	
CA-504	Mongo DB	EC	3	
OR				
CA-504	Python	EC	3	
CA-505	Project	PJ		4
CA-506	Computer Laboratory Based on 503 and 504(2 credits each)	PR		4
5	Add on Course-IOT(30 Hours)			2

SEMESTER- VI

Subject Code	Subject Name	Course	Credits	
			Th	Pr
CA-601	Recent Trends in Information Technology(Tutorial/Assignment)	CCT	3+1	
CA-602	Software Testing	CC	3	
CA-603	Advanced Java	CC	3	
CA-604	Android Programming	EC	3	
OR				
CA-604	Dot Net framework	EC	3	
CA-605	Project	PJ		4
CA-606	Computer Laboratory Based on 603 and 604(2 credits each)	PR		4
6	Add on Course-Soft skills training			2

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Business Communication Skills

Course Code: -- 101

Credit 3

Depth of the syllabus - Reasonable knowledge of the communication

Program objectives

- 1 To understand what is the role of communication in personal and business world
2. To understand system and communication and their utility
3. To develop proficiency in how to write business letters and other communications in required b

Unit No.	Contents	Lectures
1	1. Concept of Communication and Introduction to Communication 1.1 Role of Communication in social and economic system 1.2 Need for effective communication 1.3 Meaning and definition 1.4 Principles of effective communication 1.5 Barriers to communication and over comings	12
2	Methods and types of Communication 2.1 Written communication, 2.2 Forms of written communication. 2.3 Qualities ,difficulties in written communication , 2.4 Constraints in developing effective written communication 2.5 Merits and Limitations of written communication 2.6 Listening Written communication, 2.7 Forms of written communication. 2.8 Qualities, difficulties in written communication , 2.9 Constraints in developing effective written communication	12
3.	Business Correspondence 3.1 Concept , 3.2 Need and functions of Business .Correspondence , 3.3 Types of Business letters , 3.4 Layout Drafting of business , 3.5 Sales Letter , 3.6 Orders sales circulars and business promotion letters 3.7 written methods& types of communication	12
4.	Analysis of different Media of Communication 4.1 Fax communication ,	12

	4.2 Voice mail , 4.3 e-mails , 4.4 Tele conferencing , 4.5 Communication through social media	
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References

Sr. No.	Title of the Book	Author/s	Publication
1	Business Communication	Meenakshi Raman , Prakash Singh	Oxford
2	Business Communication	HomaiPradhan , N.S. Pradhan	Himalaya Publishing House
3	Business Communication	R.K. Madhukar	Vikas Publishing House
4	Business Communication and personality Development	BiswajitDas .ipswwtaSatpathy	Excel Books
5	Business Communication – Concepts , Cases and applications	P.D Chaturvedi , MukeshChaturvedi	Dorling Kindersley
6	Business Communication – Connecting at work	HorySankarMukerjee	Oxford
7	Business Communication Today	Courtland L. Bovee , John V. Thill , AbhaChatterjee	Pearson
8	Hand Book of internal Communication	Eileen Scholes	Infinity Books

Principles of Management
Course Code 102
Credit -3

Depth of the course- Reasonable working knowledge

Program Objectives

- To understand basic concept regarding org. Business Administration
- To examining how various management principles
- To develop managerial skills among the students

Unit No.	Contents	Lectures
1	<p>Nature of management</p> <p>Meaning , importance , functions ,types Management as an art ,science and social system Universality of concept of management and organization</p>	12
2	<p>Evolution of management thoughts</p> <p>Concept of managerial thoughts Contribution of Taylor, Mayo and Fayol and Drucker and Indian Management Ethos</p>	12
3.	<p>Major managerial Functions</p> <p>Planning , need types ,methods , advantages ,merits Forecasting. need types ,methods , advantages ,merits Decision making types process and techniques Directions nature and principles and Motivation –nature, principles and theories Organizing –concept delegation of authorities decentralization concepts and importance</p>	12
4.	<p>Recent trends in Management</p> <p>Management of change , Mgt of crises ,TQM ,stress management (Principles ,concepts merits)</p>	12

References

Sr. No.	Title of the Book	Author/s	Publication
1	Management Concepts and Strategies	J.S. Chandan	Vikas Publishing House Pvt. Ltd.
2	Principles of Management	Harold Koontz , Heinz Weihrich , A. RamachandraArysri	McGraw hill companies
3	Management A Global and Entrepreneurial Perspective	Heinz Weihrich , Mark V. Cannice , Harold Koontz	McGraw hill companies
4	Management – 2008 Edition	Robert Kreitner , MamataMohapatra	Biztantra – Management For Flat World
5	Introduction to Management	John R. Schermerhorn	Wiley India Pvt. Ltd.
6	Principles of Management	P.C. Tripathi , P.N. reddy	McGraw hill companies
7	Management Text and Cases	R. SatyaRaju , A. Parthasarthy	PHI learning Pvt. Ltd
7	Management (Multi-Dimensional Approach)	H. R. Appannaiah , G. Dinakar , H.A. Bhaskara	Himalaya Publishing House

Subject : C-Programming
Course Code-103
Credit-3

Unit No.	Topics	No. of Lectures
1	Introduction to C language 1.1 History 1.2 Basic structure of C Programming 1.3 Language fundamentals 1.3.1 Character set, tokens 1.3.2 Keywords and identifiers 1.3.3 Variables and data types 1.4 Operators 1.4.1 Types of operators 1.4.2 Precedence and associativity 1.4.3 Expression	3
2	Managing I/O operations 2.1 Console based I/O and related built-in I/O functions 2.1.1 printf(), scanf() 2.1.2 getch(), getchar() 2.2 Formatted input and formatted output	2
3	Decision Making and looping 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 control structures 3.3.1 while loop 3.3.2 Do-while loop 3.3.3 For loop 3.3.4 Nested for loop 3.4 Jump statements 3.4.1 break 3.4.2 continue 3.4.3 goto 3.4.4 exit	9
4	Programs through conditional and looping statements Addition / Multiplication of integers Determining if a number is +ve / -ve / even / odd Maximum of 2 numbers, 3 numbers Sum of first n numbers, given n numbers Integer division, Digit reversing, Table generation for n, ab Factorial, sine series, cosine series, nCr , Pascal Triangle Prime number, Factors of a number	5

	Other problems such as Perfect number, GCD of 2 numbers etc (Write algorithms and draw flowcharts)	
5	Arrays and Strings 5.1 Introduction to one-dimensional Array 5.1.1 Definition 5.1.2 Declaration 5.1.3 Initialization 5.2 Accessing and displaying array elements 5.3 Finding smallest and largest number from array 5.4 Reversing array 5.5 Finding odd/even/prime number from array 5.4 Introduction to two-dimensional Array 5.4.1 Definition 5.4.2 Declaration 5.4.3 Initialization 5.5 Accessing and displaying array elements 5.6 Matrices: Addition, Multiplication, Transpose, Symmetry, upper/lower triangular 5.7 Introductions to Strings 5.7.1 Definition 5.7.2 Declaration 5.7.3 Initialization 5.8 Standard library functions 5.9 Implementations without standard library functions.	12
6	Functions 6.1 Introduction 6.1.1 Purpose of function 6.1.2 Function definition 6.1.3 Function declaration 6.1.4 Function call 6.2 Types of functions 6.3 Call by value and call by reference 6.4 Storage classes	9
7	7 Introduction to pointer 7.1 Definition 7.2 Declaration 7.3 Initialization 7.4 Indirection operator and address of operator 7.5 Pointer arithmetic 7.6 Dynamic memory allocation 7.7 Functions and pointers	4
8	8 Structures 8.1 Introduction to structure 8.2 Definition 8.3 Declaration 8.4 Accessing members 8.5 structure operations 8.6 nested structure	4

Reference Book :-

- 1) Let us C –YashwantKanetkar, BPB publication.
- 2) Ansi C- Balagurusamy

3) The complete Reference- HerbeltSchildt

Subject Name -: Database Management Systems
Course Code: 104
Credit-3

Sr. No.	Chapter No.	Name of Chapter and Contents	No. of Lect.
1	1	File Structure and Organization 1.1 Introduction 1.2 Logical and Physical Files 1.2.1 File 1.2.2 File Structure 1.2.3 Logical and Physical Files Definitions 1.3 Basic File Operations 1.3.1 Opening Files 1.3.2 Closing Files 1.3.3 Reading and Writing 1.3.4 Seeking 1.4 File Organization 1.4.1 Field and Record structure in file 1.4.2 Record Types 1.4.3 Types of file organization 1.4.3.1 Sequential 1.4.3.2 Indexed 1.4.3.3 Hashed 1.5 Indexing 1.5.1 What is an Index? 1.5.2 When to use Indexes? 1.5.3 Types of Index 1.5.3.1 Dense Index 1.5.3.2 Sparse Index	6

2	2	<p>Database Management System</p> <p>2.1 Introduction</p> <p>2.2 Basic Concept and Definitions</p> <p> 2.2.1 Data and Information</p> <p> 2.2.2 Data Vs Information</p> <p> 2.2.3 Data Dictionary</p> <p> 2.2.4 Data Item or Field</p> <p> 2.2.5 Record</p> <p>2.3 Definition of DBMS</p> <p>2.4 Applications of DBMS</p> <p>2.5 File processing system Vs DBMS</p> <p>2.6 Advantages and Disadvantages of DBMS</p> <p>2.7 Users of DBMS</p> <p> 2.7.1 Database Designers</p> <p> 2.7.2 Application programmer</p> <p> 2.7.3 Sophisticated Users</p> <p> 2.7.4 End Users</p> <p>2.8 Views of Data</p> <p>2.9 Data Models</p>	14
		<p> 2.9.1 Object Based Logical Model</p> <p> a. Object Oriented Data Model</p> <p> b. Entity Relationship Data Model</p> <p> 2.9.2 Record Base Logical Model</p> <p> a. Relational Model</p> <p> b. Network Model</p> <p> c. Hierarchical Model</p> <p>2.10 Entity Relationship Diagram(ERD)</p> <p>2.11 Extended features of ERD</p> <p>2.12 Overall System structure</p>	

3	3	Relational Model 3.1 Introduction 3.2 Terms a. Relation b. Tuple c. Attribute d. Cardinality e. Degree of relationship set 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 Operations a. Select b. Project c. Union d. Difference e. Intersection f. Cartesian Product g. Natural Join	8
4	4	SQL (Structured Query Language) 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	12
5	5	Relational Database Design 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 5.4.3.4 BCNF	8

References:

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

Business Statistics
Course code 105
Credit 3

Depth Reasonable working knowledge

Objective of the program

1. To understand role and importance of statistics in various business situations
2. To develop skills related with basic statistical technique
3. Develop right understanding regarding regression, correlation and data interpretation

Unit No.	Contents	Lectures
1	<p>Concept of statistics.</p> <p>Role of statistics. In informatics business science Tabulation, Data condensations and tabulation, Data Condensation and graphical Methods :Raw data , attributes and variables , classification , frequency distribution ,cumulative frequency distributions. Graphs - Histogram, Frequency polygon. Diagrams - Multiple bar , Pie ,Subdivided bar.</p>	12
2	<p>Measures of central tendency and dispersion</p> <p>Criteria for good measures of central tendency, Arithmetic mean, Median and Mode for grouped and ungrouped data, combined mean.</p>	12
3.	<p>Measures of Dispersion :</p> <p>Concept of dispersion , Absolute and relative measure of dispersion, Range, Variance, Standard deviation, Coefficient of variation, Quartile Deviation , Coefficient of Quartile deviation.</p>	12
4	<p>Correlation and Regression(for ungrouped data)</p> <p>Concept of correlation, positive & negative correlation, Karl Pearson's Coefficient of correlation, meaning of regression, Two regression equations, Regression coefficients and properties.</p>	12

References

Sr. No.	Title of the Book	Author/s	Publication
1	Business Statistics	GirishPhatak	Tech – Max

2	Statistics for Business	Dr. S. K. Khandelwal	International Book House
3	Fundamentals of Business Statistics	J.K. Sharma	Pearson
4	Business Statistics	G.C. Beri	The McGraw-Hill companies
5	Statistics Theory and Practice	R.S. N. Pillai Bagavathi	S. Chand
6	Statistics for Managerial decision Making	Dr. S. K. Khandelwal	International Book House
7	Business Statistics For Contemporary Decision Making	Ken Black	Wiley India Edition
8	Fundamentals of statistics	S.C. Gupta	Himalaya Publication House