



BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA51	Title of the Course	Object Oriented Programming – I
Total Credits of the Course	4	Hours per Week	4
Course Objectives:	To study the fundamentals of 1. Object Oriented Programming concepts using C++. 2. input/output, arrays and working with classes. 3. functions, function overloading and inheritance. 4. operator overloading, pointers and files.		

Course Content		
Unit	Description	Weightage* (%)
1.	Object Oriented Programming (OOP) Concepts and Introduction to C++ <ul style="list-style-type: none">– Structured programming vs. object oriented programming– Basic OOP concepts : objects, classes, encapsulation, data hiding, inheritance, polymorphism– Introduction to C++: structure of a C++ program, data types, variables, constants, expressions, statements and operators– Usage of header files– Control flow statements: if else, for loop, while loop, do while loop, switch, break and continue	25
2.	Input/Output, Arrays, Strings and Classes <ul style="list-style-type: none">– Basic I/O in C++– Arrays in C++ : introduction, declaration, initialization of one , two and multi-dimensional arrays, operations on arrays– Working with strings : introduction, declaration, string manipulation and arrays of strings– Classes and objects in C++– Constructors : default, parameterized, copy, constructor overloading and destructors– Access specifiers, implementing and accessing class members– Working with objects : constant objects, nameless objects, live objects, arrays of objects	25
3.	Functions, Function Overloading and Inheritance <ul style="list-style-type: none">– Introduction to functions, library and user-defined functions, parameters passing, default arguments– Functions overloading, inline functions, friend functions– Inheritance: Introduction, derived class declaration, types of	25





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Vallabh Vidyanagar, Gujarat
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Syllabus with effect from the Academic Year 2022-2023

	inheritance and member access ability, constructor and destructor in derived class, construction invocation and data member initialization. – virtual functions	
4.	Operator Overloading, Pointers and Files – Operator overloading : Introduction, overloaded operators, unary operator overloading, operator keyword, operator return values, binary operators overloading, overloading with friend function – Usages of Pointers in C++ : basic overview Dynamic memory allocation – Files : introduction and applications – File operations : open, read, write, seek and close	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	Object Oriented Programming concepts using C++.
2.	Input/output, arrays and working with classes.
3.	Functions, function overloading and inheritance.
4.	Operator overloading, pointers and files.





Suggested References:

Sr. No.	References
1.	E Balagurusamy : Object Oriented Programming in C++, Tata McGraw-Hill Publishing Co. Ltd.
2.	Robert Lafore : Object Oriented Programming in Turbo C++, Guide, Galgotia Pub. (P).
3.	Barkakati N. : Object Oriented Programming in C++, PHI.
4.	OOP's using C++ for Dummies.
5.	John R. Hubbard : Programming with C++ (Schaum's Outlines), McGraw Hill, Second Edition, 2000.

On-line resources to be used if available as reference material

On-line Resources

1. <https://www.tutorialspoint.com/>

2. <https://www.w3schools.com/>

3. <https://www.javatpoint.com/>





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA52	Title of the Course	Data Structures- I
Total Credits of the Course	4	Hours per Week	4
Course Objectives:	To study the 1. Fundamentals of data structures 2. Basic concepts related to stacks, queues. 3. Fundamentals of graphs, multilists and file organization.		

Course Content		
Unit	Description	Weightage* (%)
1.	Introduction to Data Structures <ul style="list-style-type: none">- Introduction to data structures - Definition, Types of Data Structures, applications and advantages- Primitive and non-primitive data structures and operations on them- Introduction to arrays, one and two-dimensional arrays- Representation of arrays in memory : row-major and column-major order- Address calculation of elements of one and two-dimensional arrays- Applications of arrays	25
2.	Stack <ul style="list-style-type: none">- Introduction- Operations on the Stack- Push, Pop, Peep, Change- Applications of Stack- Infix, Postfix, Prefix Notations- Conversion: Infix to Postfix- Recursion : Definition and examples	25
3.	Queues <ul style="list-style-type: none">- Types of queues : Simple queues, Circular queues, Double ended queues, Priority Queue- Applications of Queues- Operations on Simple and Circular Queues : Insert and Delete	25
4.	Graph, MultiList and File Organization-I <ul style="list-style-type: none">- Graph - Basic Terminologies like Graph, Diagraph, Directed edge, Weighted graph, Adjacent vertices, Self loop, Parallel edges, Multigraph, Simple graph, Complete graph, Cycle, Acyclic Graph, Isolated vertex, Degree of vertex, source node, sink node, Pendant vertex, Connected graph, strongly connected graph, weakly	25





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Syllabus with effect from the Academic Year 2022-2023

	connected graph – MultiList – File Organization: Terminologies and concept, Structure of sequential files, Processing sequential files	
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Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	Fundamentals of data structures.
2.	Basic concepts related to stacks, queues.
3.	Fundamentals of graphs, multilists and file organization.

Suggested References:	
Sr. No.	References
1.	Tremblay J. & Sorenson P. G.: An Introduction to Data Structures with Applications, 2nd Edition, Tata McGraw-Hill Edition, 1991.
2.	Singh Bhagat & Naps Thomas: Introduction to Data Structures, Tata McGraw-Hill Publishing Co.Ltd.,1985.
3.	R. B. Patel: Data Structure using C – Khanna Publications. ISBN: 81-87522-41-0





4	D. Samanta - Classis Data Structures, 2nd Edition – PHI Publication.
5	G. S. Baluja - Data Structures through C, 4th Edition – Dhanpat Rai & Co.

On-line resources to be used if available as reference material
On-line Resources
1. https://www.tutorialspoint.com/
2. https://www.w3schools.com/
3. https://www.javatpoint.com/





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA53	Title of the Course	Database Management System - II
Total Credits of the Course	4	Hours per Week	4
Course Objectives:	1. To study the basics of Relational database design, normalization and ER diagrams. 2. To study the basics of PL/SQL, cursors, stored procedures and functions.		

Course Content		
Unit	Description	Weightage* (%)
1.	Relational Database Design <ul style="list-style-type: none">– Consequences of poor database design– Functional dependencies– Lossless joins and dependency preservation– Dr. E.F.Codd Rules– Differences between DBMS and RDBMS– The process of database normalization– 1st Normal Form, 2nd Normal Form, 3rd Normal Form, Boyce-Codd Normal Form– Examples of normalization– E-R modeling (different types of entities, attributes, relationships and their representation in the E-R diagram)– Case studies: Library (Book issue and return), Bank (Opening saving bank account)	25
2.	Basics of PL/SQL <ul style="list-style-type: none">– PL/SQL - Introduction and advantages– Understanding PL/SQL Block structure– Fundamentals of PL/SQL Language - data types (BOOLEAN, CHAR, NUMBER, DATE, VARCHAR2), variables, constants and expressions– Operators– Conditional statements – IF and CASE statements– Controlling loop iterations – LOOP, EXIT, EXITWHEN, WHILE, FOR– Sequential control statement – GOTO and NULL	25
3.	Cursors and Exception Handling <ul style="list-style-type: none">– SELECT..INTO statement– Working with cursor : introduction, types, attributes and processing	25





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Syllabus with effect from the Academic Year 2022-2023

	(i.e. declaring, opening, fetching and closing), using parameterized cursor – Using cursor FOR loop – Error Handling : introduction, advantages of exceptions, types of exceptions Working with user-defined exceptions – declaration, Raise_Application_Error, Pragma Exception_Init – Sqlcode and Sqlerrm	
4.	Stored Subprograms, Database Triggers and Packages – Stored procedures – introduction, creating, modifying, executing and dropping procedures – Stored functions – introduction, creating, modifying, executing and dropping functions – Database triggers – introduction, creating, modifying and dropping triggers, types of triggers – Packages – meaning, advantages, creating, modifying and dropping	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand relational database design, normalization and ER diagrams.
2.	Work with PL/SQL, cursors, stored procedures and functions.





Suggested References:

Sr. No.	References
1.	An introduction to Database Systems : Bipin C. Desai, Galgotia Publications Pvt. Ltd.
2.	Ivan Bayross : SQL, PL/SQL The programming language of Oracle, 4th edition, BPB Publications.
3.	Kevin Loney, George Koch, Oracle9i The Complete Reference , Oracle Press.
4.	Buluksu Lakshman : Oracle9i PL/SQL : A developer's guide, Apress, edition 2003.
5.	Understanding Database Management Systems : S. Parthsarthy and B.W.Khalkar, First edition 2007, Master Academy.
6.	P. S. Deshpande : SQL/PLSQL for Oracle9i, dreamtech press, reprint edition 2009.

On-line resources to be used if available as reference material

On-line Resources

1. <https://www.tutorialspoint.com/>

2. <https://www.w3schools.com/>

3. <https://www.javatpoint.com/>





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BCA (Semester-III)

Course Code	US03CBCA54	Title of the Course	System Analysis and Design
Total Credits of the Course	4	Hours per Week	4
Course Objectives:	<ol style="list-style-type: none"> 1. To understand both the nature of 'information systems analysis and design' and its various components. 2. To study the different phases of Systems Development Life Cycle (SDLC). 3. To learn systems design techniques, methodologies, and tools. 4. To study the framework of SSADM (Structured System Analysis and Design Method) with its features. 5. To understand Input/output design and fact gathering techniques. 6. To construct DFDs (Data Flow Diagrams). 		

Course Content		
Unit	Description	Weightage* (%)
1.	Concepts of System, System Analysis and System Design <ul style="list-style-type: none"> – Introduction to the concept of a system with examples – Elements and characteristics of systems – Types of systems – Introduction to System Analysis – Role of a System Analyst – Introduction to System Design – Comparison between System Analysis and System Design 	25
2.	System Development Life Cycle (SDLC) and Structured System Analysis and Design method (SSADM) <ul style="list-style-type: none"> – Introduction to System Life Cycle (SDLC) System Analysis: Problem Identification, Feasibility study, System requirement analysis System Design: System design specification and programming, System implementation, follow up and maintenance, testing and evaluation – Introduction and need of Structured Systems Analysis and Design Method (SSADM) – SSADM Methodology: System survey, Structured analysis, Structured design, Hardware study ,System Implementation and Maintenance – Advantages of SSADM 	25
3.	Fact Finding Techniques and Input/Output Design <ul style="list-style-type: none"> – Introduction and need of Fact Finding Techniques – Fact Gathering Techniques : Interviewing, Questionnaires, Record 	25





SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
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Syllabus with effect from the Academic Year 2022-2023

	<p>Inspection and Observation techniques</p> <ul style="list-style-type: none"> – Input Design: Introduction to Data Capture, Objectives of Data Capture, Steps for Data Capture, Data verification and validation – Output Design: Design Principles of Output, Output objectives, Types of Output, Various forms of Outputs 	
4.	<p>Data Flow Diagram and System Prototype Design</p> <ul style="list-style-type: none"> – Meaning and Significance of Data Flow Diagrams (DFDs) – Symbols used in DFDs – Rules for Constructing DFDs – Introduction and comparison between Physical and Logical DFDs – Introduction to System Prototype – Reasons for System Prototyping – Prototype Model: Diagram and Steps of Prototype Development Model – Merits and Demerits of Prototype Method 	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	The concepts of System, System Analysis and System Design
2.	System Development Life Cycle (SDLC) and Structured System Analysis and Design method (SSADM)
3.	The Input / Output Design & fact finding techniques
4.	Data Flow Diagrams and system prototype design





Suggested References:

Sr. No.	References
1.	S. Parthasarthy & B. W. Khalkar : System Analysis & Design, 1 st Edition, Master Ed. Cons., Nashik.
2.	James A. Senn : Analysis & Design of Information System 2 nd Edition, McGraw-Hill Int.
3.	V. Rajaraman – Analysis & Design of I. S. Prentice Hall of India Private Ltd.2003.

On-line resources to be used if available as reference material

On-line Resources

1. <https://www.tutorialspoint.com/>





BCA (Bachelor of Computer Applications)
BCA (Semester-III)

Course Code	US03CBCA55	Title of the Course	Practicals-I
Total Credits of the Course	4	Hours per Week	8

Course Objectives:	<ol style="list-style-type: none">1. To study the Object Oriented Programming concepts using C++.2. To learn advanced concepts of C++.3. To implement various data structures using C++.
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Course Content		
Sr. No.	Description	Weightage* (%)
1.	Part-1 : Practical based on US03CBCA51	60
2.	Part-2 : Practical based on US03CBCA52	40

Teaching-Learning Methodology	Project-based learning in small groups and Hands on training through required ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	University Examination	100%

Course Outcomes: Having completed this course, the learner will be able to		
1.	gain knowledge of Object Oriented Programming concepts using C++.	
2.	gain knowledge of advanced concepts of C++.	
3.	gain knowledge of implementing various data structures using C++.	





BCA (Bachelor of Computer Applications)
BCA (Semester-III)

Course Code	US03BCA56	Title of the Course	Practicals-II
Total Credits of the Course	4	Hours per Week	8

Course Objectives:	<ol style="list-style-type: none">1. To implement basics of PL/SQL, cursors, stored procedures and functions.2. To understand various phases of Systems Development Life Cycle (SDLC).3. To understand context diagram and data flow diagram.
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Course Content		
Sr. No.	Description	Weightage* (%)
1.	Part-1 : Practical based on US03BCA53	60
2.	Part-2 : Practical based on US03BCA54	40

Teaching-Learning Methodology	Project-based learning in small groups and Hands on training through required ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	University Examination	100%

Course Outcomes: Having completed this course, the learner will be able to	
1.	gain knowledge on implementing basics of PL/SQL, cursors, stored procedures and functions.
2.	gain knowledge on phases of Systems Development Life Cycle (SDLC).
3.	gain knowledge on context diagram and data flow diagram.





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03ABCA51	Title of the Course	Computer Oriented Numerical and Statistical Methods
Total Credits of the Course	2	Hours per Week	4
Course Objectives:	1. To study the fundamentals of Computer oriented numerical methods. 2. To learn the basics of Computer oriented statistical methods.		

Course Content		
Unit	Description	Weightage* (%)
	Following Methods and Topics will conduct in Practical Session. <ul style="list-style-type: none">– Method of successive bisection.– Method of false position.– Method of Newton Raphson (Geometrically only)– Interpolation and Extrapolation with equal intervals– The Gregory-Newton formula for forward and backward interpolation.– Interpolation for unequal intervals using Newton's formula for divided differences.– Examples of differentiation of Linear Equation.– Higher order derivative of standard functions up to second order.– The matrix inversion method.– Examples based on Time Series- Secular trend, seasonal variation, cyclical variation and Irregular Variation.– Methods on measurement of components- the moving average method.	100%

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	University Examination	100%





Course Outcomes: Having completed this course, the learner will be able to

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| 1. | Understand the computer oriented numerical methods. |
| 2. | Understand the computer oriented statistical methods. |

Suggested References:

Sr. No.	References
1.	Sastry S.S: Introductory Methods of Numerical Analysis, Prentice Hall of India Pvt. Ltd.
2.	Salaria R.S.: Computer Oriented Numerical Methods, Book Publishing Co. Ltd., 2000(3).
3.	Fundamentals of Statistics by S.C.Gupta, Himalaya Publishing House (6).
4.	Rajaram V. Computer Oriented Numerical Methods, Prentice Hall of India Pvt. Ltd., 1983.
5.	Murray R. Spiegel: Theory and Problem of Statistics, McGraw Hill Schaum's Outline Series, 1981.
6.	A text book of Calculus with an Introduction to differential equations by Dr. Dinesh J. Karia, Mahendra L. Patel, Roopal Prakashan Vallabh Vidyanagar.





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA51	Title of the Course	Digital Computer Electronics
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	To study 1. Different number systems and conversions. 2. Basic logic gates, Boolean algebra and truth tables. 3. Simplification of logic expression using laws of Boolean algebra. 4. Sequential and combinational circuits.		

Course Content		
Unit	Description	Weightage* (%)
1.	Gates and Boolean Algebra – Logic gates (NOT, AND, OR, NAND, NOR, XOR, XNOR) - Properties and Symbolic Representation - Truth Table (up to 3 input) – De-Morgan's theorems – Simplification of logic expressions using Laws of Boolean algebra – Circuit Equivalence	25
2.	Digital Logic Circuits-I – Karnaugh Maps – Flip-Flop (RS, D Latch) – Decoder & Encoder	25
3.	Digital Logic Circuits-II – Multiplexer & Demultiplexer – Half Adder & Full Adder – Comparator – Parity Bit Generator	25
4.	Digital Logic Circuits-III – 4-bit binary Adder / Subtractor – Controlled Buffer Register – Shift Registers – Ring Counter	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Syllabus with effect from the Academic Year 2022-2023

Evaluation Pattern

Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand

1.	Different number systems and conversions.
2.	Basic logic gates, Boolean algebra and truth tables.
3.	Simplification of logic expression using laws of Boolean algebra.
4.	Sequential and combinational circuits.

Suggested References:

Sr. No.	References
1.	Malvino Brown: Digital Computer Electronics, 3 rd Edition.
2.	Malvino and Leach: Digital Principles and Applications, 4 th Edition.
3.	Rajaraman V: Computer Fundamentals Prentice – Hall of India Pvt. Ltd.
4.	Sinha P K: Computer Fundamentals BPB Publication (Second Edition).
5.	S K. Basandra: Computers Today Galgotia Publication
6.	Peter Norton: Introduction to Computers TMH.
7.	William H. Gothmann: Digital Electronics – An Introduction to Theory and Practice , 2nd Edition, PHI , 1982





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA52	Title of the Course	Management Information System
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	1. Management Information System (MIS) and information communication. 2. planning, decision making and elements of control.		

Course Content		
Unit	Description	Weightage* (%)
1.	MIS- Introduction <ul style="list-style-type: none">- Introduction to MIS, Function of MIS, Problems with MIS, Knowledge- requirements for MIS(7 areas)- Introduction to Information, Data- Information & management, Information Classifications- Definition: Data and Information, Data Characteristics.	25
2.	Information Communication <ul style="list-style-type: none">- Information : introduction and its functions- Characteristics of information.- Communication System, Information in an organization.- System Concepts - Structure and elements, Objectives & types	25
3.	Planning and Decision Making <ul style="list-style-type: none">- Planning and Planning terms, Objectives, Policies, Levels of Planning,- Planning Problems.- Type and Sources of Planning Information- Tools of planning- Decision Making, Programmed and Non-Programmed decisions, Levels of- Decision Making	25
4.	Elements of Control <ul style="list-style-type: none">- Concept of control in management, Control cycle, Different Feedback loops,- Control in Organizations, Multiple control factors, Scope of management- Control- Total Quality Control (TQC)- Total Quality Management(TQM)	25





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Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	Management Information System (MIS) and information communication.
2.	Planning, decision making and elements of control.

Suggested References:	
Sr. No.	References
1.	Management Information Systems, T. Lucey, BPB Publication
2.	Management Information Systems, WS Jawadekar
3.	Management Information Systems, Kenneth C. Laudon, Jane P. Laudon
4.	Management Information Systems, James A. O' Brien, George M. Markas
5.	Management Information Systems, Ramesh Behl





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA53	Title of the Course	E - Commerce
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	To study the fundamentals of 1. E-Commerce and its business models. 2. Electronic market place. 3. Customer Relationship Management (CRM).		

Course Content		
Unit	Description	Weightage* (%)
1.	Introduction To E-Commerce <ul style="list-style-type: none">– Definition, communication perspective, business process perspective, service perspective– Classification by nature of transaction : B2B, B2C, C2C, C2B, Non business EC, Intra-business EC– Classification of EC Applications: electronic market, inter organizational system, customer services– Benefits to organizations, consumers, and society– Limitations of EC, framework of EC, future of EC	25
2.	E-Commerce Business Models <ul style="list-style-type: none">– Introduction– Eight key ingredients of a business model– Major B2C and B2B business models– Introduction to M-Commerce	25
3.	Electronic Marketplaces <ul style="list-style-type: none">– Market space components, types of electronic markets (electronic storefronts, electronic malls, types of stores and malls)– Portals and their types, role of intermediaries in E-markets, E-market success factors, competitive factors, impact of E-Market on organizations– Marketing, HR, manufacturing, finance and accounting	25





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4.	Customer Relationship Management (CRM) <ul style="list-style-type: none">– CRM : meaning, types of CRM, benefits and limitations of CRM– Issues in CRM implementation– Classifications of CRM applications– One-to-one marketing (personalization, collaborative filtering, customer loyalty, trust)	25
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Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
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1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	E-Commerce and its business models.
2.	Electronic market place.
3.	Customer Relationship Management (CRM).

Suggested References:	
Sr. No.	References
1.	Electronic Commerce : A managerial Perspective Efraim Turban, Jae Lee, David King, H Michael Chung (Pearson Education.)
2.	E-Commerce – Business, Technology, Society Kenneth C Laudon, Carol Guercio Traver (Pearson Education)





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BCA (Semester-III)

Course Code	US03BCA54	Title of the Course	Accounting
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	To study the fundamentals of 1. Conceptual framework of Accounting 2. Accounting cycle 3. Final accounts of sole proprietorship 4. Computerized accounting system using Tally		

Course Content		
Unit	Description	Weightage* (%)
1.	Conceptual framework of Accounting <ul style="list-style-type: none">– Definition of accounting, book keeping, need of accounting.– Some basic terms : debtor, creditor, solvent, insolvent, bad debts, bad debts recoverable, income, expenditure, trade discount and cash discount Objectives, advantages and scope of accounting.– System of book keeping, classification of accounts and rules for debit and credit.	25
2.	Accounting Cycle <ul style="list-style-type: none">– Journal : purpose, format, ruling, Simple entry example, advantages and disadvantages. Ledger : purpose, format, posting, closing ledger accounts, advantages and disadvantages– Trial Balance : purpose, format, advantages and disadvantages	25
3.	Final accounts of sole proprietorship <ul style="list-style-type: none">– Trading account and profit and loss account, balance sheet (each with purpose, format, examples)– Adjustment entries : interest on capital, interest of loan, depreciation on fixed assets	25
4.	Computerized Accounting system Tally <ul style="list-style-type: none">– Introduction of Tally ERP– Creating a Company– Features & Configurations– Creating Accounting Ledgers and group– Inventory master creation	25





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Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	conceptual framework of Accounting.
2.	accounting cycle.
3.	final accounts of sole proprietorship.
4.	computerized accounting system using Tally.

Suggested References:	
Sr. No.	References
1.	A text Book of Accounting for management by S N Maheshwari and S K Maheshwari, vikas publishing house pvt ltd.
2.	Official Guide to Financial Accounting using Tally.ERP 9 with GST By Tally Education Pvt. Ltd., BPB Publications, 2 nd Revised updated Edition, 2017.
3.	Introduction to Accounting, By Maheshwari S. N. : Vikas Pub. House 1986.
4.	R.L. Gupta : Principles and practices of accounting.
5.	Rana & Dalal : Advances Accounting and Auditing :III Sudhir Prakashan Ahmedabad.





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA55	Title of the Course	Enterprise Resource Planning
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	To study the fundamentals of 1. ERP and related technologies. 2. ERP selection and implementation.		

Course Content		
Unit	Description	Weightage* (%)
1.	Introduction <ul style="list-style-type: none">– Introduction to Enterprise Resource Planning (ERP)– Enterprise: Introduction, Business Modeling, Integrated Data Model, Integrated Management Information– Basic concepts of ERP– Advantages of ERP	25
2.	ERP and Related Technologies <ul style="list-style-type: none">– Business Process Reengineering (BPR)– Data warehousing, data mining and Online Analytical Processing (OLAP)– Product Life Cycle Management (PLM),– Supply Chain Management (SCM),– Customer Relationship Management (CRM)	25
3.	ERP – Selection <ul style="list-style-type: none">– Introduction to MRP, MRP-II and ERP– ERP package selection– Risks and benefits of ERP	25
4.	ERP – Implementation <ul style="list-style-type: none">– ERP Implementation basics– ERP Implementation Life Cycle	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	ERP and related technologies.
2.	ERP selection and implementation.

Suggested References:	
Sr. No.	References
1.	Alexis Leon: Enterprise Resource Planning, Tata McGraw-Hill, New Delhi 1st and 2nd editions.
2.	Internet based resource.





BCA (Bachelor of Computer Application)
BCA (Semester-III)

Course Code	US03BCA56	Title of the Course	Business Statistics
Total Credits of the Course	2	Hours per Week	2
Course Objectives:	To study the fundamentals of 1. Basic statistical techniques and measures of central tendency. 2. Correlation and regression. 3. Permutations, combinations and probability.		

Course Content		
Unit	Description	Weightage* (%)
1.	Introduction – Basic Statistical techniques, Frequency distribution, Forming of Frequency distribution & cumulative distribution for discrete and continuous data, Graphic representation of data, Histogram and frequency curves.	25
2.	Measures of Central Tendency – Measures of central tendency (for grouped & ungrouped data), Mean, Median, Mode, Harmonic mean, Geometric mean, Weighted mean, Relation between Arithmetic mean, Geometric mean and Harmonic mean, – Range, Percentile and Quartile, deviation, Standard deviation, Quartile Deviation.	25
3.	Regression Analysis – Method of least squares, Least- square line, correlation coefficients, rank correlation coefficients, Karl's Pearson coefficients of correlation, Linear regression, Introduction to non linear regression.	25
4.	Permutation and Combinations – Permutations and combinations , Elementary Probability, Conditional Probability, Independent and dependent events, mutually exclusive events, Probability distribution, Mathematical expectation.	25

Teaching-Learning Methodology	Blended learning approach incorporating both traditional classroom teaching as well as usage of ICT tools.
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SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25))
Syllabus with effect from the Academic Year 2022-2023

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination (As per CBCS R.6.8.3)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to understand	
1.	Basic statistical techniques and measures of central tendency.
2.	Correlation and regression.
3.	Permutations, combinations and probability.

Suggested References:	
Sr. No.	References
1.	Fundamental of statistics – S.C.GUPTA.– Himalaya Pub. House.
2.	Statistics –D.C. Sancheti, V. K. Kapoor, Sultan Chand& Sons.

