



Department of Computer Science

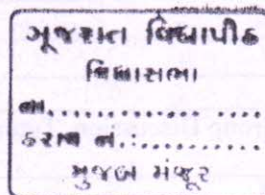
Faculty of Management and Technology

Gujarat Vidyapeeth, Ahmedabad

B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-MJ101	Course Title: Problem Solving & Basic Programming Language (C)	
Course Credits: 3	[Lectures/week : 03 , Tutorial: 00]	
Prerequisites:	Basic Knowledge of Problem Solving and Mathematics	
Objectives:	<ol style="list-style-type: none">1. To understand problem solving methodologies.2. To understand principles of logic development.3. To understand key implementation methodology to solve problems.4. Verification of solutions for problems.5. To enable students to write logical blocks and make aware about important aspects of programming constructs.	
Unit	Lecture with Break up	No Hrs.
1	Problem Solving Techniques	15
	Problem Solving : Introduction of Problem Solving, Steps in Problem Solving, Understanding Problem, Analysis of Problem, Formulate Model, Development of Solution. Example Design: Bottom Up Design, Top Down Design, Divide and Rule Algorithm: Characteristic of Good Algorithm, Representation of Algorithm Developing Algorithm, Pseudocode writing and FlowChart for Problem Solving using Flowchart: Pseudo code writing for a problem, Notations of FlowChart, Development of Flow Chart, Various Examples of Flow Control, Case Study based on Computer Problem Solving..	
2	Programming Language Fundamentals	10
	Introduction to programming language and types of programming language, Concept of Editor, Compiler, Interpreter, Getting started with C, History, Structure of C program, Character Set, Keywords, Identifier, Data Type, Variable and Constant, Compilations & linking C program.	
3	Programming Constructs	12
	Operators: Formatted Input and output statements, Operators. Program Controlling Statements: Decision making and Branching (If, if-else, switch etc) Looping construct (While loop, Do..While loop, For loop), Break, Continue, go to and exit.	





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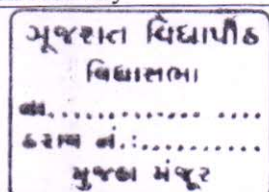
Gujarat Vidyapith, Ahmedabad

B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

4	Array	8
	Array handling: Introduction of array, Declaration and initialization of 1-D, Programming using 1-D, Declaration and initialization of integer and float array.	
Course Outcomes:		Upon completion of the course, students shall be able to
CO1	To enable students to understand problems and select proper methodologies to solve them.	
CO2	Apply principles and approaches of Problem Solving.	
CO3	Prepare Algorithms or Flow charts for simple problems.	
CO4	To enable students to write problem specific logical blocks.	
CO5	To acquire programming skills in core programming using 'C' language.	
Course objective (O) and Course Outcomes (CO) Mapping:		
	➤ O1- CO1, CO2	
	➤ O2 - CO2	
	➤ O3 - CO3	
	➤ O4 - CO4, CO5	
	➤ O5- CO4, CO5	

Text & Reference Books:	
1	Balaguruswamy, Programming in ANSI 'C', Tata McGraw Hill, 2004
2	Yasvant Kanitkar, Let Us C, BPB publication, 2016
3	Mulish Cooper: The Spirit of C, Jaico Pub. House, 19th Edition, 1999
4	Reema Thareja, Programming in C, BPB publication, Oxford Higher Education, 2015
5	Introduction to Problem Solving, NCERT, 2023
6	Introduction to Problem Solving Techniques, IGNOU, 2022
Web & Other Study Resources:	
1	Swayam & e-PG Pathshala
2	Patrick Coxall, Computer Based Problem Solving , https://readthedocs.org/projects/computer-based-problem-solving/downloads/pdf/latest/
3	https://ncert.nic.in/
4	https://egyankosh.ac.in/
Teaching Methodology:	
	Classroom Teaching, Group Discussion, Tutorial, Presentation, Seminar, Hands-on Activity





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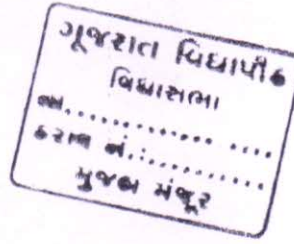
Evaluation:

Internal - 40 %

1. Continuous evaluation – 20 %
2. Subjective evaluation (theory exam) – 20%

External: Theory exam 60 %

LAB (Practical paper) - BCA-LAB-108 is based on this course.





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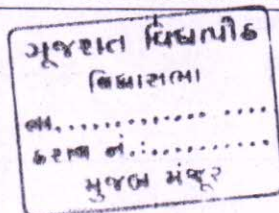
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Gujarat Vidyapeeth, Ahmedabad

B.C.A. (1th Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-MJ102	Course Title: Fundamentals of Computer & Information Technology	
Course Credits: 03	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Not Required	
Objectives:	<ol style="list-style-type: none">1. To provide useful information regarding computer systems and their architecture.2. Learning different computer devices and number systems.3. Learning usage of Processors, Memory, port, and Computer buses.4. Learning the application and role of different types of software in the computer system.5. Students can prepare a computer system configuration based on the application requirement.	
Unit	Lecture with Break up	No of Hrs.
1	Basics of Computer	12
1.1.	Introduction: Block diagram of a computer, characteristics of computers, Generation of computer: First, Second, Third, Fourth and Fifth.	
1.2	Classification of Computers: <ul style="list-style-type: none">• On the basis of data handling<ul style="list-style-type: none">▪ Analog, Digital, Hybrid• On the basis of Size<ul style="list-style-type: none">▪ Mini, Micro, Mainframe, Super-computer• On the basis of functionality<ul style="list-style-type: none">▪ Server, Workstation, Embedded computer	
1.3	Computer peripherals devices: <ul style="list-style-type: none">• Input Devices: Keyboard, mouse, and touch panel.• Display Devices: LCD and LED Monitors, Touch Screens• Printer and Scanner: Dot matrix, Line, Drum, Ink Jet, Laser, scanner (optical and Barcode), web camera• Magnetic storage & Hard Disk, Optical storage technology, CDs, DVDs. Flash memory, Memory stick (pen drive)• RFID card and Reader	





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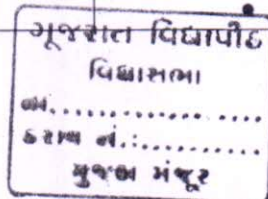
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2	Data Representation and Number Systems	12
2.1	Representation: <ul style="list-style-type: none">• Representation of Number<ul style="list-style-type: none">▪ Binary▪ Octal▪ Hexadecimal number▪ 1's, 2's complement representation• Characters codes (ASCII, EBCDIC, UNICODE)	
2.2	Binary arithmetic : <ul style="list-style-type: none">• addition, subtraction, Multiplication, and Division Shift Operations: <ul style="list-style-type: none">• Shift Left and Shift Right Operations Boolean Algebra and Logical gate: <ul style="list-style-type: none">• Law of Boolean Algebra, DeMorgan's theorems (two variables)• AND, OR, NOT, NAND and NOR Gate	
2.3	Conversion of Numbers: <ul style="list-style-type: none">• Decimal, Binary, Octal, Hexadecimal	
3	Motherboard, Processors, Memory, port, and Computer buses	12
3.1	Introduction to Motherboard: <ul style="list-style-type: none">• CPU organization<ul style="list-style-type: none">▪ Registers▪ ALU▪ Control Unit▪ execution of instruction Primary Memory: RAM, ROM, Types of RAM and ROM• Introduction to GPU & TPU	
3.2	Cache Memory: <ul style="list-style-type: none">• L1 cache and L2 cache○ Introduction to Virtual Memory	
3.3	Port: <ul style="list-style-type: none">• Parallel Port• Serial Port• USB Port• SCSI Port	





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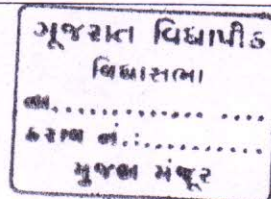
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	3.4	Introduction to buses: <ul style="list-style-type: none">• Read and write cycle• introduction to FSB• PCI Bus and USB	
4	Computer Application & Information Technology		5
	4.1	Introduction to System Software: <ul style="list-style-type: none">• Introduction to Operating System<ul style="list-style-type: none">▪ Windows and Ubuntu OS▪ Utility Software• Introduction Application Software<ul style="list-style-type: none">▪ Office automation tools, Business Applications	
	4.2	Introduction to Network and Internet: <ul style="list-style-type: none">• History of the Internet• Intranet• Introduction to cloud• IP Addresses, Domain names• Web browse	
5	Case Study of Desktops/Laptops		4
		Introduction to Computer Parts/Configuration: <ul style="list-style-type: none">• Processors<ul style="list-style-type: none">▪ Intel i-Family Processor, ARM, AMD• Memory (RAM/ROM)<ul style="list-style-type: none">▪ SRAM, DRAM, DDR, ECC, PROM, EEPROM, Flash, Cache, VRAM• External Storage<ul style="list-style-type: none">▪ HDD, SATA SSD, M.2 SSD• Ports<ul style="list-style-type: none">▪ USB, HDMI, Display Port, VGA, D-SUB• Network/Connectivity<ul style="list-style-type: none">▪ Wi-Fi, Wire, Bluetooth• Graphics Card• Slots<ul style="list-style-type: none">▪ PCI, PSI-E, PCI-X, M.2 Connector, SATA	





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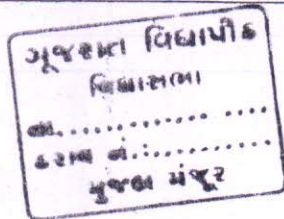
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B.C.A. (1th Semester) Syllabus

Effective from 2023-2024

Course Outcomes:	Upon completion of the course, students shall be able to
CO1	Explain the organization of computer systems.
CO2	Determine the properties and functioning of different computer devices.
CO3	The student will be able to determine the behaviours of data representation through number systems.
CO4	Explain Processors, Memory, port, and Computer buses.
CO5	Explain the different types of Software and their applications.
CO6	Explain the latest parts of the computer and configuration.
Course Objective(O) and Course Outcomes (CO) Mapping:	
➤ O1- CO1	
➤ O2-CO2, CO3	
➤ O3- CO4	
➤ O4-CO5	
➤ O5-CO6	

Text & Reference Books:	
1	Pradeep K. Sinha & Priti Sinha ,Computer Fundamentals, BPB,2020
2	V. Raja Raman, Fundamentals of Computers,PHI Learning Pvt. Ltd, 2014
3	Alexis Leon, Mathews Leon, Information Technology, Vijay Nicole,2019
4	Ron White, How computers work,Tech Media, 2015
5	Peter Norton, Introduction to computers, McGrawHill, 2017
6	Problems and Solutions in Digital Logic and Computer Design, G.K. Publisher,2013
Web & Other Study Resources:	
	Swayam & e-PG Pathshala
Teaching Methodology:	
	Class Work, Discussion, Self-Study, Case Study, Presentation, Seminar, Assignments.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20% External: Theory exam 60 %





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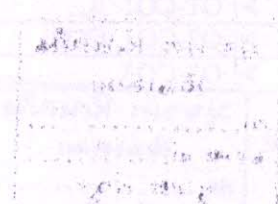
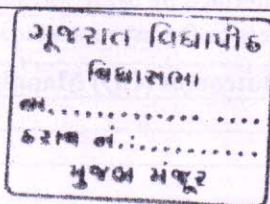
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B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-MN103	Course Title: Web Design-I (Lab Based)	
Course Credits: 03	[Lab/week: 06 , Tutorial: 00]	
Prerequisites:	Basics knowledge of Computer and Browser	
Objectives:	<ol style="list-style-type: none">1. To enable students to understand the internet, WWW, and principles of web design.2. To construct basic websites using HTML.3. To enable students to design attractive and self-depicting web pages using HTML5 and CSS.	
Unit	Lecture with Break up	No of Hrs.
1	Internet Concepts, Web concepts and HTML	40
	<p>Internet Concepts: Introduction to Computer Network, Introduction to TCP/IP Reference model, Introduction to Internet and WWW, Protocol: HTTP, HTTPS, IP, TCP, UDP, IMAP, DNS, FTP, SMTP, POP.</p> <p>Introduction to HTML: User Interface: Importance and Benefits, Introduction to Markup language, Web page, Web Site, Web Browsers and its working principle, Web server, Web site architecture.</p> <p>Structure of web page: <!DOCTYPE> Declaration, Understanding tags, elements, and attribute, HTML tags <html><head><body><p><div> etc., HTML Formatting Elements <i><mark><small><ins><sub><sup>, Text effects, Colours, Horizontal rules, Line break.</p> <p>Lists: Ordered Lists, Unordered Lists, Glossary/ Description Lists.</p> <p>Link / Anchor: URL Anatomy, Protocol, Host name, folder & file name, Types of URL, Absolute & relative URLs, creating link and anchors: Link to other document, Link to part of same document, Linking Specific location in a document, Bookmark.</p> <p>Table: Creating tables <table>, working with rows <tr>, working with data <td>, Table heading <th>, Captions, Spanning rows & columns, Formatting tables.</p> <p>Images: Understanding Image basics, Adding images, Image height & width, Alignment, Border, Alternative text, Image as a link, Image links, thumbnails, Image map, Understanding image map types, Creating client-side image map.</p>	





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		<p>Forms: Why Form? Determining Form content, Information, Usability and Design, Creating Forms, Form tags, child elements, attributes, onSubmit event, submit & reset buttons, Form controls <input/><select> etc. Introduction of JavaScript.</p>	
2	HTML5	<p>Semantic Tags: <header><footer><nav><Aside><section><picture><figure> etc.</p> <p>HTML5 Form: Form element and attributes, Form child elements, Input types, Input type attributes and restrictions (autocomplete, min, max, multiple, pattern and step)</p> <p>Audio/Video Tags: Multimedia accessibility, <video><audio><source></p> <p>Web APIs: Web Storage (cookies, local storage and session storage), Geolocation etc. Canvas and SVG</p>	20
3	Cascading Style Sheets	<p>Introduction to CSS: Inline, Internal & External CSS Implementing CSS, Style sheets with HTML, Developing a Style sheet, Rules, Selector, Declaration, Property & Value, id and class attributes, CSS box property model (padding, margin, border).</p> <p>Setting properties: Font, Text, Box, Color & background, Classification, Formatting web page using CSS, Advantage & Disadvantage of CSS.</p> <p>CSS3: New in CSS3, Position property, Flex property, Gradient, shadow, rounded corner, animation and transform, Media query.</p>	30
Course Outcomes:		Upon completion of the course, students shall be able to	
CO1	Summarize the necessity of user interface and applying designing principles.		
CO2	Construct and enhance user interface by using advanced markup language features.		
CO3	Select and apply styling features to the user interface.		
Course Objectives(O) and Course Outcomes (CO) Mapping:			
>	O1-CO1		
>	O2-CO1, CO2		
>	O3-CO3		

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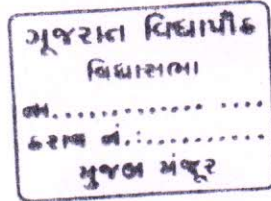
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Text & Reference Books:	
1	Ivan Bayross , Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP, BPB, 2010
2	Bruce Lawson, Remy Sharp, Introducing HTML5, New Riders, 2012
3	Introducing HTML5 (Voices That Matter) by Bruce Lawson, Remy Sharp
4	Ivan Bayross, HTML5 and CSS3 Made Simple, BPB, 2012
5	Laura Lemay, Rafe Colburn, Jennifer Kyrnin, Mastering Html, CSS & JavaScript Web Publishing, BPB Publication, 2016
Web & Other Study Resources:	
1	Swayam& e-PG Pathshala
2	https://www.w3schools.com/
3	https://www.tutorialspoint.com/index.htm
Teaching Methodology:	
	Classroom Teaching, Group Discussion, Assignments, Seminar, Presentation, Hands-on Activity
Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Practical Exam – 20% External: Practical Exam 60 %





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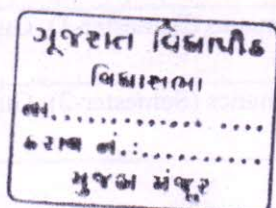
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B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-GE104-E1	Course Title: Fundamentals of Mathematics	
Course Credits: 3	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Understanding of basic mathematics.	
Objectives:	<ol style="list-style-type: none">1. Develop students' ability to think abstractly and logically.2. Enhance students' problem-solving skills and critical thinking abilities.3. Introduce students to formal methods of reasoning and mathematical proof techniques.4. Develop an understanding of the concept of a set and its properties.5. Introduce students to set operations such as union, intersection, and complement.6. Enhance students' ability to construct mathematical proofs using set notation and concepts	
Unit	Lecture with Break up	No of Hrs.
1	Logic	15
	Statement, negation, conjunction, disjunction, statement formulas and truth table, conditional and bi-conditional, well-formed formula, tautology, equivalence of formulas, duality law, tautological implications, functionally complete set of connectives, other connectives, D.N.F, C.N.F, P.D.N.F, P.C.N.F.	
2	Theory of Inference and the Predicate Calculus	15
	Rules of inference, consistency of premises, the indirect method of proof, automatic theorem proving, Predicates, the statement function, variables, Quantifiers, predicate formulas, free and bound variables, the universe of discourse, the theory of inference for predicate calculus.	
3	Set Theory	15
	Set, Element, Members, Listing Method/ Roster Form, Property Method / Set Builder Form, Singleton Set, Finite Set , Infinite Set, Null Set, Non-empty Set, Universal Set, Subset, Power Set, Subsets of set of real numbers, Irrational Number, Interval, Open Interval, Closed Interval, End Points, Equal Sets, Transitivity, Set Operation (Binary Operation like Union Operation, Closure, Idempotent Law, Commutative Law, Associative Law, Neutral Element(Identity Element), Intersection Operation, Distributive Law, Disjoint Sets, Complementation, Unary Operation, De Morgan's Laws, Difference Set, Symmetric Difference Set, Cartesian Product of Sets, Number of Elements of a Finite Set.	





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Course Outcomes:	Upon completion of the course, students shall be able to
CO1	Apply the principle of formal logic and its applications in mathematics and computer science.
CO2	Construct and analyze logical arguments using deductive reasoning.
CO3	Apply set theory to real-world problems and mathematical fields
CO4	Develop critical thinking and problem-solving skills through working with sets and related concepts.
Course objective (O) and Course Outcomes (CO) Mapping:	
➤ O1 O2 ,O3 - CO1, CO2	
➤ O4, O5,O6 - CO3, CO4	

Text & Reference Books:

1	J. P. Trembly and R. Manohar, Discrete Mathematical Structure with application to computer science , Tata McGraw-Hill, 1997
2	Uwe Schoning, Logic for computer science, Birkhauser Boston, 2008
3	C. L. Liu and D. P. Mohapatra, Elements of Discrete Mathematics – A computer oriented approach, mcgraw hill education, 2016
4	N. Chandrasekaran and M. Umavathi, Discrete Mathematics (Third Edition), PHI, 2022
5	T. Sengadir, Discrete Mathematics & Combinatorics, Pearson, 2009
6	Willem Conradie and Valentin Goranko, Logic and Discrete Mathematics, A concise Introduction, Wiley, 2015
7	પ્રો. મોહનભાઈ સુથાર અને પ્રો. જયંતિભાઈ મ. પટેલ, ઉચ્ચતર માધ્યમિક સંદર્ભસાહિત્ય શ્રેણી પુસ્તિકા ૧૯૮ વિષય, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ
8	S. Barnard and J. M. Child અનુવાદક સ્વ.શંભુપ્રસાદ ત્રિવેદી, ઉચ્ચતર બીજગણિત ભાગ-૧ Higher Algebra, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ
9	S. Barnard and J. M. Child અનુવાદક સ્વ.શંભુપ્રસાદ ત્રિવેદી, ઉચ્ચતર બીજગણિત ભાગ-૨ Higher Algebra. યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ
10	Dr. A. P. Shah, Standard-11 Mathematics (Semester-1), Gujarat State Board of School Textbooks, 2013
11	Dr. A. P. Shah, Standard-11 Mathematics (Semester-2), Gujarat State Board of School Textbooks, 2013
12	Dr. A. P. Shah, Standard-12 Mathematics (Semester-1), Gujarat State Board of School Textbooks, 2013
13	Dr. A. P. Shah, Standard-12 Mathematics (Semester-2), Gujarat State Board of School Textbooks, 2013

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Web & Other Study Resources:	
Teaching Methodology:	
	Classroom Teaching, Group Discussion, Tutorial, Presentation, Seminar.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20% External: Theory exam 60 %

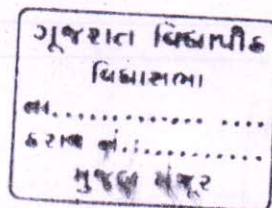
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Faculty of Management and Technology
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B.C.A. (1st Semester) Syllabus
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Course Code: BCA-GE104-E2	Course Title: Fundamentals of Accounting	
Course Credits: 03	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Not Required	
Objectives:	<ol style="list-style-type: none">1. Understand the basic concepts of accounting, its terminologies, and applicability.2. Make journal entries, subsidiary books, ledger posting, and trial balance with the principles of a double-entry accounting system.3. Prepare final accounts with adjustment entries and conduct ratio analysis.4. Know about Computerized Accounting Systems, and have a practice of its applicability in the real business situation.	
Unit	Lecture with Break up	No of Hrs.
1	Introduction to Accounting and GST	10
	Accounting: Meaning, Importance, and Limitations, Users of Accounting Information and Their Needs, Terminology of Accounting, Dual Effect of Transactions, Types of Accounts, and Rules of Debit-Credit Goods and Service Tax: Meaning, Benefits, and Concept of CGST, SGST, UTGST, and IGST in Brief.	
2	Journal and Books	15
	Journal: Meaning, Characteristics, and Significance, Journal Entries of Different Types of Transactions, Subsidiary Books: Meaning, Advantages and Types, Ledger and Ledger Posting, Preparation of Trial Balance	
3	Final Accounts and Partnership Firm	10
	Final Accounts: Preparation of Final Accounts and Treatment of Adjustments in Final Accounts. Brief Concept of Final Accounts of Partnership Firm and Company	
4	Ratio, Analysis and Computerized System	10
	Accounting Ratios and Analysis: Profitability, Liquidity, Solvency, and Efficiency Ratios. Computerized Accounting System: Demo of Accounting Software like Tally-ERP 9.	
Course Outcomes:	After successful completion of the course, a student will be able to:	





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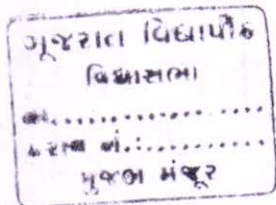
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CO1	Have fundamental clarity about accounting, its utility, limitations, and widely used accounting terminologies.
CO2	Understand thoroughly the whole process of financial accounting from identifying business transactions to preparing financial statements.
CO3	Critically evaluate financial statements using ratio analysis.
CO4	Apply a computerized accounting system to cater the need of time.
Course objectives(O) and Course Outcomes(CO) Mapping:	
>	O1- CO1
>	O2-CO2
>	O3-CO3
>	O4-CO4

Text & Reference Books:	
1	Maheshwari, S. N. ,Introduction to Accounting, Vikas Publishing House, New Delhi, 2018
2	Patil, V. A and Korlahalli, J.S., Principles and Practice of Accounting, R.Chand & Co., New Delhi, 2018
3	Grewal, T.S., Double Entry Book Keeping, Sultan Chand & Sons, New Delhi, 2018
4	Gupta, Ambrish., Financial Accounting for Management- An Analytical Perspective, Pearson Education India, 2016
5	Banerjee, Ashok, Financial Accounting: A Managerial Emphasis, Excel Books, 2009
6	Shah, Paresh, Basic Financial Accounting for Management, Oxford University Press, 2019
7	નામાના મૂળતત્વો- ભાગ-1 અને 2- બી. એસ. શાહ પ્રકાશન, 2019
8	મેનેજમેન્ટ એકાઉન્ટન્સી, ટી. જે. રાણા, સુધીર પ્રકાશન, 2011
9	મેનેજરો માટેના હિસાબો, પી.એમ.શાહ, ડી.ડી. જોષી અને એન.એસ. નાણાવટી, કુમાર પ્રકાશન
10	નામાના મૂળતત્વો- ભાગ-1 અને ભાગ-2, ધોરણ 11 અને ધોરણ 12, ગુજરાત રાજ્ય શાળા પાઠ્યપુસ્તક મંડળ, 2019
Web & Other Study Resources	
Teaching Methodology:	





Department of Computer Science

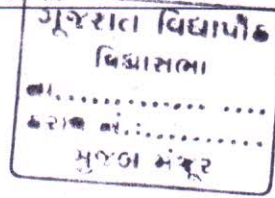
Faculty of Management and Technology

Gujarat Vidyapeeth, Ahmedabad

B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

	The students will learn theoretical aspects of accounting with practical implications. Various tools and techniques such as group discussion, case studies, assignments, presentations, activity-based learning, use of audio-visual aids, etc. will be used to make the teaching-learning procedure more effective and fruitful.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20% External: Theory exam 60%



अ. 43/23

म.दे. समाजसेवा संकुल, गुजरात विद्यापीठ, अहमदाबाद
बी.ए.(ओनर्स), हिन्दी Ability Enhancement Course (AEC)
Ability Enhancement Course (AEC) हिन्दी भाषा

कुल घंटे-30

कुल क्रेडिट-03

उद्देश्य :

राष्ट्रीय शिक्षा नीति के तहत चार वर्षीय बी.ए. ऑनर्स पाठ्यक्रम में एबिलिटी इनहेंसमेंट कोर्स विषयक प्रस्तुत प्रश्नपत्र हिन्दी भाषा अध्यापनार्थ समाहित किया गया है। स्नातक स्तर के विद्यार्थियों के लिए यह आवश्यक है कि वे किसी ऐसे एबिलिटी इनहेंसमेंट कोर्स (Ability Enhancement Course) (AEC) की भी जानकारी प्राप्त करें, जिससे उनका चिंतन और सर्जन विषयक दृष्टिकोण व्यापक हो; साथ ही, साहित्य विशेष के संदर्भ में उनकी दृष्टि व्यापक भी हो। इस प्रश्नपत्र के अंतर्गत एबिलिटी इनहेंसमेंट कोर्स के रूप में हिन्दी भाषा का विशेष अध्ययन समाहित किया गया है।

इकाई - 1 हिन्दी भाषा का स्वरूप और विकास

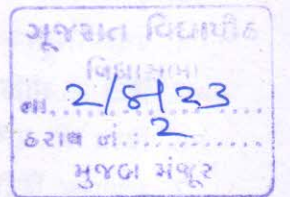
- 1.1 हिन्दी भाषा का स्वरूप
 - 1.1.1 खड़ी बोली हिन्दी के विकास में फोर्ट विलियम कॉलेज की भूमिका
 - 1.1.2 भारतेंदुकालीन हिन्दी का स्वरूप
 - 1.1.3 द्विवेदीकालीन हिन्दी का स्वरूप
 - 1.1.4 स्वातंत्र्योत्तरकालीन हिन्दी का स्वरूप
- 1.2 राष्ट्रभाषा और राजभाषा के रूप में हिन्दी का विकास
- 1.2 देवनागरी वर्तनी और अंकों का मानकीकरण
- 1.3 मानक देवनागरी वर्तनी और अंक
- 1.4 देवनागरी वर्तनी और अंकों का विभिन्न भाषाओं में उपयोग

इकाई - 2 हिन्दी भाषा के शब्द

- 2.1 पर्यायवाची और समानार्थक शब्द
- 2.2 विलोमार्थक शब्द
- 2.3 अनेकार्थक शब्द
- 2.4 अनेक शब्दों के स्थान पर एक शब्द
- 2.5 तत्सम, तद्भव, देशज, विदेशी, अज्ञातव्युत्पत्तिक, संकर और पारिभाषिक शब्द
- 2.6 मुहावरे और लोकोक्तियाँ

इकाई - 3 हिन्दी भाषा में सारांश लेखन

- 3.1 सारांश की विशेषताएँ - संतुलित आकार, विचारों की शुद्धता, आत्म भाषा-शैली का प्रयोग, प्रभावात्मकता, स्वतः पूर्णता, सुसंबद्धता, भाषागत परिवर्तन
- 3.2 सारांश लेखन के विषयगत निर्देश - मूल अवतरण का वाचन, मुख्य विचारों का चयन



एवं रेखांकन, सारांश का प्रूप लेखन, मूल अवतरण तथा सारांश के प्रूप की तुलना, आकार निरीक्षण, भाषा परिष्कार, शीर्षकांकन, सारांश लेखन

3.3 सारांश लेखन हेतु कुछ आवश्यक निर्देश

3.4 सारांश लेखन का अभ्यास

इकाई - 4 विस्तारण

4.1 विस्तारण का महत्व और उपयोगिता

4.2 विस्तारण तथा अन्य रचना रूप - विस्तारण एवं व्याख्या, विस्तारण एवं स्पष्टकरण, विस्तारण और भावार्थ, विस्तारण का आशय

4.3 विस्तारण विधि - ध्यानपूर्वक पठन, मूल और सहायक भावों के विषय में चिंतन, मूल और सहायक भावों का लेखन, मूल भावों की पुष्टि हेतु दृष्टांतों का लेखन, प्रारूप लेखन, प्रारूप निरीक्षण

4.4 कुशल विस्तारक के गुण - गहन अध्ययनशीलता, तार्किकता, सूक्ष्म निरीक्षण दृष्टि, निष्पक्षता, कुशल व्याख्याता, प्रतिभाशाली व्यक्तित्व, तीव्र स्मरण शक्ति, व्यापक शब्द भंडार, समुचित भाषाधिकार, पर्याप्त अभ्यास

4.4 सूक्तियों और कहावतों का विस्तारण

4.5 विस्तारण का अभ्यास

इकाई - 5 विराम चिहनों का प्रयोग

5.1 विराम चिह्न का अर्थ

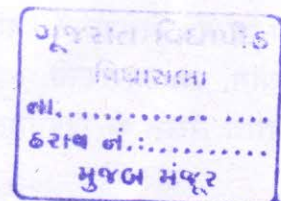
5.2 विराम चिहनों का प्रचलन

5.3 विराम चिहनों की उपयोगिता

5.4 हिंदी में प्रयुक्त होने वाले विराम चिह्न - पूर्ण विराम, अल्प विराम, अर्ध विराम, प्रश्नवाचक चिह्न, विस्मयादिबोधक चिह्न, योजक चिह्न, उद्धरण चिह्न, कोष्ठक, विवरण चिह्न, आदि।

संदर्भ ग्रन्थ

1. भाषा विज्ञान, डॉ. राम गोपाल सिंह
2. आधुनिक हिंदी व्याकरण, डॉ. राम गोपाल सिंह
3. जनसंचार माध्यम और अनुवाद, डॉ. राम गोपाल सिंह
4. प्रयोजनमूलक हिंदी, डॉ. राम गोपाल सिंह
5. हिंदी में मीडिया लेखन और अनुवाद, डॉ. राम गोपाल सिंह
6. विश्व की भाषाओं का वर्गीकरण, डॉ. राम गोपाल सिंह
7. सामान्य हिंदी, डॉ. सभापति मिश्र
8. व्यावहारिक हिंदी, डॉ. भोलानाथ तिवारी
9. राजभाषा एवं प्रयोजनमूलक हिंदी, डॉ. राम गोपाल सिंह, साहित्य संस्थान, गाजियाबाद
10. पत्रकारिता प्रशिक्षण, डॉ. राम गोपाल सिंह, पार्श्व प्रकाशन, अहमदाबाद



GUJARAT VIDYAPITH : AHMEDABAD
Faculty of Management and Technology
Computer Science Department
BCA Semester-I
ENV -101 Environmental Sciences
(Syllabus of Theoretical portion) (In force from June, 2023)
(External Evaluation: 60% + Internal Evaluation: 40%)
(Total Teaching Hours=30, Credit=02)

Unit 1: Multidisciplinary nature of environmental studies

(10 lectures)

Definition, scope and importance

Need for public awareness.

Natural Resources:

Renewable and non-renewable resources:

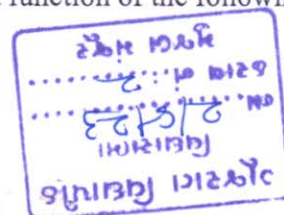
Natural resources and associated problems.

- i. Forest resources: Use and over-exploitation, deforestation, Timber extraction, mining, dams and their effects on forest and tribal people.
- ii. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.
- iii. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- iv. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
- v. Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources. Case studies.
- vi. Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.
- vii. Role of an individual in conservation of natural resources.
- viii. Equitable use of resources for sustainable lifestyles.

Unit 2: Ecosystems

(10 lectures)

- i. Concept of an ecosystem.
- ii. Structure and function of an ecosystem.
- iii. Producers, consumers and decomposers.
- iv. Energy flow in the ecosystem.
- v. Ecological succession.
- vi. Food chains, food webs and ecological pyramids.
- vii. Introduction, types, characteristic features, structure and function of the following ecosystem :-



- a. Forest ecosystem
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3 : Environmental Pollution

(10 lectures)

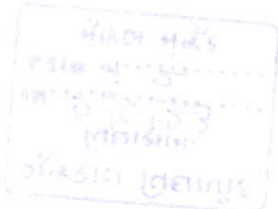
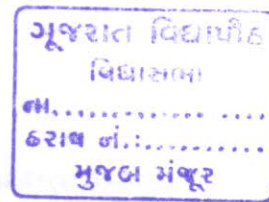
Definition

- i. Cause, effects and control measures of :-
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- ii. Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- iii. Role of an individual in prevention of pollution.
- iv. Pollution case studies.
- v. Disastermanagement: floods, earthquake, cyclone and landslides.

Textbook

Environmental Studies, Erach Bharucha, for University Grants Commission

પર્યાવરણ અધ્યયન, એરચ ભરુચા, ગુજરાતી અનુવાદિત





Department of Computer Science

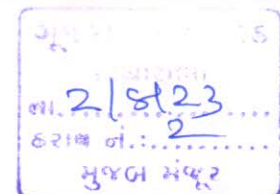
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Gujarat Vidyapith, Ahmedabad

B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-SEC107		Course Title: Skill Enhancement Course - Spreadsheet (સ્કિલ એન્હાન્સમેન્ટ કોર્સ - સ્પ્રેડશિટ)
Course Credit: 02		[Lecture/week: 02 , Tutorial: 00]
Prerequisites:	Basic computer knowledge and working knowledge of Spreadsheet.	
Objectives:	<ol style="list-style-type: none">1. To understand interface, terminology and functions of Excel.2. Enter, edit and format data and cells.3. Construct formulas and relative and absolute references.4. To develop advanced skills for data management and analysis.5. Understand data validation, conditional formatting and charting techniques.6. Learn problem solving formulas with advanced logic, Pivot Tables, automate complex tasks, Dashboard and data from API.	
Unit	Lectures with break up	No. of Hrs.
1	Introduction to Spreadsheet	15
	Introduction to Information System: Concept of spreadsheet software, Formatting Different Elements (Sheet, Column, Row, Cell), Spreadsheet Operations, Addressing (Relative, Absolute, Mixed), Chart, Sorting. Use of various functions: DAY, MONTH, YEAR, INT, ROUND, SQRT, SUM, AVERAGE, COUNT, MIN, MAX, LEFT, MID, RIGHT, UPPER, LOWER, IF, MORE ON IF, TEXT, REPLACE, LEN, PROPER, CONCATENATE, TRIM, COUNTIF, COUNTA, TEXTSPLIT, INDEX, MATCH, PMT, MEDIAN, MODE	
2	Advanced Spreadsheet	15
	Introduction to Macros, Using Macros, Using VLOOKUP, Creating VLOOKUP Invoice, Using VLOOKUP and IF together, SUBTOTAL, Using HLOOKUP, Introduction to Pivot Table, Different Options of Pivot Table, Pivot Chart, Goal Seek, Easily build dynamic tools & spreadsheet dashboards to filter, display and analyse your data, Create your own formula-based spreadsheet formatting rules, Join datasets from multiple sources with XLOOKUP, INDEX and MATCH functions, Automate tedious and time-consuming tasks using cell formulas and functions in spreadsheet (no VBA required)	





Department of Computer Science

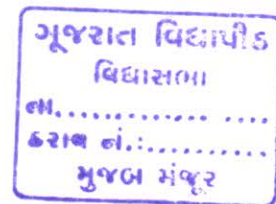
Faculty of Management and Technology

Gujarat Vidyapith, Ahmedabad

B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

	Pull real time data from APIs directly into spreadsheet (weather, stock quotes, directions etc.)	
Course Outcomes:	Upon completion of the course, students shall be able to	
CO1	Use the basic functions, interface and terminology of Excel.	
CO2	Work with formulas and functions and write, use and perform calculations.	
CO3	Automate task using cell formulas.	
CO4	Perform references in data analysis.	
CO5	Creates and edits charts data analysis representation.	
Course Objective(O) and Course Outcomes(CO) Mapping:		
>	O1 - CO1, CO2	
>	O2 - CO2, CO3	
>	O3 - CO3	
>	O4 - CO4	
>	O5 - CO4, CO5	
>	O6 - CO5	
Text & Reference Books:		
1	Joan Lambert and Curtis Frye, Microsoft Excel Step by Step, Pearson Education, 2023	
2	Paul McFedries, Microsoft Excel Formulas and Functions, Pearson Education, 2023	
Web & Other Study Resources:		
1	https://www.linkedin.com/pulse/excel-case-studyscenarios-index-aditya-kumar-darak/?trackingId=GcX4Qk8CTzakfrFXUyRT2w%3D%3D	
Teaching Methodology:		
	Classroom Teaching, Seminar, Assignment, Case Study	
Evaluation:		
	Internal - 100%	





Department of Computer Science

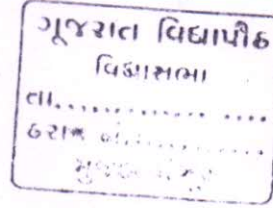
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B.C.A. (1st Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-LAB-108	Course Title: Lab Based on BCA-MJ101 Problem Solving & Basic Programming Language (C)
Course Credits: 02	[Lab Hours/week: 04]
Prerequisites:	Basic knowledge of Programming language and subject knowledge.
Objectives:	Make theoretical concepts clearer through practical implementation.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation - Lab work and journal evaluation – 20 % 2. Practical evaluation -Practical Exam – 20% External: Practical Exam 60%





Department of Computer Science

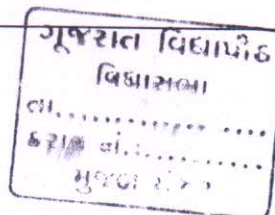
Faculty of Management and Technology

Gujarat Vidyapeeth, Ahmedabad

B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-MJ201	Course Title: Computer Programming (C)	
Course Credits: 3	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Basic Knowledge of Mathematics and Computer Programming	
Objectives:	<ol style="list-style-type: none">1. To enable students to write programs using modular concepts and handling the string.2. To enable students to understand pointers and runtime memory access and allocation.3. To enable students to write a program for data handling using file.	
Unit	Lecture with Break up	No Hrs.
1	Two-dimensional Array	8
	Character Array and String handling: Introduction of character array, Declaration and initialization of 1-D and 2-D, Programming of character array using 1-D, Declaration and initialization of character array, String management and functions of string.h.	
2	Functions & User defined Datatype	12
	Functions: Concept of modular programming, Elements of function, Type of Function, Declaration, Calling, and Defining a function, Passing Array and string as function argument, Built-in library for I/O, String, Maths, standard library, Recursion. User defined datatype: usingtypedef, structure and union, Dot operator and access of member of the structure.	
3	Pointer and Dynamic Memory Allocation	12
	Pointer: Introduction to pointers and different types of pointers, Pointer to array and Array of pointers, pointer to function. Dynamic Memory Allocation: Basics of Dynamic memory Allocation, malloc, calloc, realloc, free, Arrow operator and access of members of structure.	
4	File and Macros	13
	Simple File: Simple File and its Concepts, Input – Output operation using fscanf, fprintf, fgets, fputs, fgetc, fputc. Binary File: Fread, fwrite Simple macro implementation	





Department of Computer Science

Faculty of Management and Technology

Gujarat Vidyapeeth, Ahmedabad

B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Outcomes:	Upon completion of the course, students shall be able to
CO1	Understand character and string handling .
CO2	Understand the concept of modular programming.
CO3	Handle dynamic memory operations.
CO4	Handle the file and data management.
CO5	Write a program to solve a problem.
Course objective (O) and Course Outcomes (CO) Mapping:	
➤ O1 - CO1, CO2, CO5	
➤ O2 - CO3, CO5	
➤ O3- CO4, CO5	

Text & Reference Books:	
1	Balaguruswamy, Programming in ANSI 'C', Tata McGowell Hill, 2004
2	YasvantKanitkar, Let Us C, BPB publication, 2016
3	Mulish Cooper, The Spirit of C, Jaico Pub. House, 19th Edition-1999
4	ReemaThareja, Programming in C, BPB publication, Oxford Higher Education, 2015

Web & Other Study Resources:	
1	Swayam& e-PG Pathshala
2	Patrick Coxall, Computer Based Problem Solving , https://readthedocs.org/projects/computer-based-problem-solving/downloads/pdf/latest/

Teaching Methodology:	
	Classroom Teaching, Group Discussion, Tutorial, Presentation, Hands-on Activity, Seminar.

Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20% External: Theory exam 60 %

LAB (Practical paper) - BCA-LAB-207 is based on this course.

ગુજરાત વિદ્યાપીઠ
વિદ્યાલય
સં.
કક્કા નં.
મુદ્રણ તારીખ



Department of Computer Science

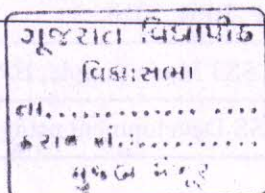
Faculty of Management and Technology

Gujarat Vidyapith, Ahmedabad

B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-MN202	Course Title: Web Design-II	
Course Credits: 03	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Knowledge of HTML, CSS, and any programming language like C/C++/Java	
Objectives:	<ol style="list-style-type: none">1. Explore the concepts of DHTML and be able to design and develop dynamic websites using HTML5, CSS and JavaScript.2. Able to design and develop responsive and interactive websites using jQuery and Bootstrap.3. Creating better, faster, and more interactive web applications with the help of AJAX.	
Unit	Lecture with Break up	No of Hrs.
1	DHTML and Client-side scripting language	15
	<p>JavaScript: Static and Dynamic webpage, Introduction to JavaScript and DHTML, Object-Orientation and JavaScript, Client-Side Dynamic Mechanism/Behavior, DOM, Variables and Datatypes, Statements and Operators, Control Structures: Conditional, Branching and Loop Statements.</p> <p>Array: Introduction to Array and Array Creation, Built-in Objects, and its properties: Document, Math, Date, History, Windows, Form, Location etc., Built-in Functions, User Define Functions/Methods, Message Boxes: Dialog Boxes, Alert Boxes, Confirm Boxes, Prompt Boxes.</p> <p>Events and Event Handling: Handling events from the Body elements, Button elements, Text box and Password elements; The DOM 2 event model.</p> <p>Dynamic Documents with JavaScript: Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts; Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements; Dragging and dropping elements.</p> <p>Form Handling: Form Attributes, onSubmit Event, Validation, Sanitization.</p>	
2	jQuery: JavaScript Library	15
	jQuery: Introduction, Installation and Configuration, jQuery Syntax, jQuery Selectors: Element Selector, Id Selector, Class Selector, jQuery Events, jQuery Effects, jQuery Methods/API.	
3	Bootstrap Framework	10





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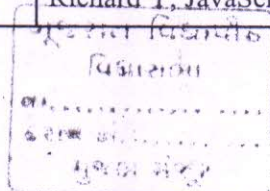
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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

		<p>Introduction to Bootstrap: Introduction, Bootstrap Layout (Container, Row, Columns, Responsive, classes, Offset Column, Reordering Columns), Bootstrap Content (Typography, Tables, Images, Forms), Bootstrap Components (Navbar, Navs and tabs, Dropdowns, Buttons, Button Groups, Breadcrumb, Pagination, Labels, Alerts, Progress Bars, Accordion, Card, Modal), Bootstrap Utilities (Colors, Background, Borders, Display, Overflow, Position, Spacing, Text, Vertical align).</p>	
4	Creating better, faster, and more interactive web pages		05
		<p>AJAX: Introduction, Introduction to XML, How AJAX Works- An event occurs in a web page (the page is loaded; a button is clicked), An XMLHttpRequest object is created by JavaScript, The XMLHttpRequest object sends a request to a web server, The server processes the request and Processing and Response status, The server sends a response back to the web page, The response is read by JavaScript, AJAX with jQuery.</p>	
Course Outcomes:		Upon completion of the course, students shall be able to	
CO1	Understand the necessity of a dynamic web page.		
CO2	Construct, design and enhance user interface using scripting language.		
CO3	Analyse, apply effects and implements events using scripting language.		
CO4	Improve and simplify coding of scripting language.		
CO5	Develop a responsive website.		
CO6	Develop creative, fast and interactive web pages using AJAX.		
Course Objectives(O) and Course Outcomes (CO) Mapping:			
➤	O1- CO1, CO2, CO3, CO4		
➤	O2- CO3, CO4, CO5		
➤	O3-CO6		

Textbooks & Reference Books:	
1	DT Editorial Service, HTML5 Black Book, Covers CSS 3, JavaScript, XML, XHTML, AJAX, PHP and jQuery, DreamTech Press, 2016
2	Ivan Bayross , Web Enabled Commercial Application Development Using HTML, JavaScript, DHTML and PHP, BPB, 2010
3	Ivan Bayross, HTML5 and CSS3 Made Simple, BPB, 2012
4	Richard Y, JavaScript and CSS Development using jQuery, Wrox, 2009





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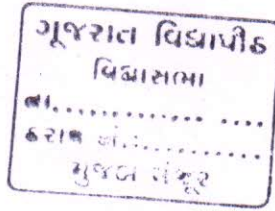
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5	Laura Lemay, Rafe Colburn, Jennifer Kyrmin, Mastering Html, CSS & JavaScript Web Publishing, BPB Publication, 2016
6	Ethan Brown, Learning JavaScript Essentials for Modern Application Development 3e, O'Reilly Media, 2016
Web & Other Study Resources:	
1	Swayam & e-PG Pathshala
2	https://www.w3schools.com/
3	https://www.tutorialspoint.com/index.htm
Teaching Methodology:	
Classroom Teaching, Group Discussion, Tutorial, Seminar, Presentation, Assignments, Hands-on Activity.	
Evaluation:	
Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20 % External: Theory exam 60 %	
LAB (Practical paper) - BCA-LAB-208 is based on this course.	





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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-GE203	Course Title: Mathematics – I	
Course Credits: 3	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites:	Knowledge of set theory.	
Objectives:	<ol style="list-style-type: none">1. Understand the domain, co-domain and relations.2. Understand the range, range set, image and function.3. Represent the function of graphs.4. Understand the special type of functions and algebra of functions.5. Understand the AP and GP and solve the basic problems of AP & GP.6. Understand the limits and solve the basic problems of limits .	
Unit	Lecture with Break up	No of Hrs.
1	Relations and Functions	15
	Relation: Relation, Domain, Range, Universal Relation, Visual Representation of Relations, Arrow Diagram. Function: Function, Domain, Co-domain, Graph, Function of a Real Variable, Graph of the function f in plane, Equal Functions, Image, Pre-image, Identity Function, Constant Function, Modulus Function, Signum Function, Polynomial Function, Rational Function, Greatest Integer Function, Floor Function, Ceiling Function, Algebra of Real Function, Addition, Subtraction, Multiplication, Quotient of two real functions, Composition Function.	
2	Sequence and Series	15
	Sequence and Series: Sequence, Series, Arithmetic Progression(A.P.), Common Difference, Arithmetic Series, Spiral, Geometric Progression(G.P.), Geometric Series, Mean, Arithmetic Mean, Geometric Mean, Sequence of power of Natural Numbers.	
3	Limits	15
	Limits: Introduction, Intuitive Idea of Limit, Formal Definition of Limit, Limit of a function, Left limit of a function, Right limit of a function, Algebra of Limits, Limit of a Polynomial, Limit of Relational Functions, An Important Limit, Rule of Substitution or Rule of Limit of a Composite Function, Sandwich Theorem or Squeeze Theorem, Trigonometric Limits.	

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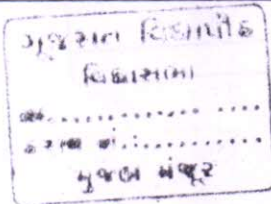
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Course Outcomes:	Upon completion of the course, students shall be able to
CO1	Solve the problem of Relations and Functions.
CO2	Perform the algebraic operations on Functions and draw a graph of function and special function.
CO3	Solve the problems of Sequences and Series.
CO4	Solve the problems of limits.
Course Objective(O) and Course Outcomes (CO) Mapping:	
>	O1, O2 - CO1
>	O3, O4 - CO2
>	O5 - CO3
>	O6 - CO4

Text & Reference Books:	
૧	પ્રો. મોહનભાઈ સુથાર, પ્રો. જયંતિભાઈ મ. પટેલ ઉચ્ચતર માધ્યમિક સંદર્ભ સાહિત્ય શ્રેણી પુસ્તિકા ૧૯૮ વિધેય, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ.
૨	S. Barnard and J. M. Child અનુવાદક સ્વ. શંભુપ્રસાદ ત્રિવેદી, ઉચ્ચતર બીજગણિત ભાગ-૧ Higher Algebra, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ
૩	S. Barnard and J. M. Child અનુવાદક સ્વ. શંભુપ્રસાદ ત્રિવેદી, ઉચ્ચતર બીજગણિત ભાગ-૨ Higher Algebra, યુનિવર્સિટી ગ્રંથ નિર્માણ બોર્ડ
૪	Dr. A. P. Shah, Standard-11 Mathematics (Semester-1), Gujarat State Board of School Textbooks, 2013
૫	Dr. A. P. Shah, Standard-11 Mathematics (Semester-2), Gujarat State Board of School Textbooks, 2013
૬	Dr. A. P. Shah, Standard-12 Mathematics (Semester-1), Gujarat State Board of School Textbooks, 2013
૭	Dr. A. P. Shah, Standard-12 Mathematics (Semester-2), Gujarat State Board of School Textbooks, 2013
Teaching Methodology:	
	Classroom Teaching, Group Discussion, Tutorial, Presentation, Seminar.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation – 20 % 2. Subjective evaluation (theory exam) – 20% External: Theory exam 60 %





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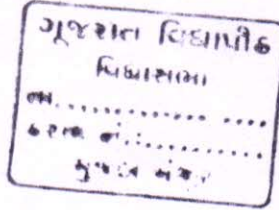
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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-AEC204	Course Title: Communication Skills -II
Course Credits: 02	[Lectures/week: 02 , Tutorial: 00]
University Level Common Courses	



Gujarat Vidyapith, Ahmedabad

Department of English

B.A., B.R.S, B.Sc., B.C.A.

Semester II

AECO21 Compulsory English

To Be Effective from 2023-24

Credit: 2

No. of Hours: 30

Internal Evaluation: 40

Semester-End Examination: 60

Objectives: The paper aims to develop reading and comprehension ability of the students. It also aims to enable students to identify grammatical categories as used in a text and make them to use it on their own in small writing passages.

Learning Outcomes:

1. Comprehensive understanding of texts and passages
2. Understanding of different vocabularies, sentence structures and one-word substitute
3. Students will understand the prescribed grammatical categories

Unit No.	Title	Teaching Methodology	Weightage and Duration
1	Unit 1: Reading and Comprehension 1.1 A Chat with Mrs. Smiles by W.R.Lee 1.2 A Snake in the Grass by R.K. Narayan	1. Classroom lectures 2. Slide Show on analyzing text 3. PPT on Story Teaching 4. You Tube Videos on using different dictionaries and finding their pronunciation	40% 10 Hours
2	Unit 2: Grammatical Categories 2.1 Articles 2.2 Introduction to Parts of Speech 2.3 Verbs 2.4 Concords	1. Classroom lectures 2. PPT on Articles, Different Exercises, Parts of Speech, Subject-Verb Agreement 3. You Tube Videos on learning articles, Parts of Speech, Subject-verb Concord etc.,	40% 14 Hours
3	Unit 3: Writing Skills	1. Classroom lectures	20%

	<p>This unit will focus on writing simple descriptive passages. The faculty will provide points for writing passages.</p> <ol style="list-style-type: none"> 1. Last Day in School 2. First Week in the University 3. My School Tour 	<ol style="list-style-type: none"> 2. PPT on types of essays 3. You Tube Videos on jotting down different essays, types of essays and the difference between essay and paragraph 	06 Hours
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References:

- Alexander, L.G. 1990 . *Longman English Grammar Practice for Intermediate Students*. Longman Group (Ltd.), UK, p. 110.
- Azar, B. S. 1992. *Fundamentals of English Grammar*. 2nd ed. New York: Pearson ESL. ISBN: 0-13-338278-8. [Workbook: ISBN 0-13-347097-0, Teacher's guide: ISBN 0-13-347105-5, Answer key: ISBN 0-13-338534-5]
- Azar, B. S. 1996. *Basic English grammar*. 2nd ed. New York: Pearson ESL. ISBN: 0-13-368317-6. [Teacher's guide: ISBN 0-13-368325-7, Answer key: ISBN 0-13-518119-4]
- Azar, B. S. 1998. *Understanding and using English grammar*. 2nd ed. New York: Pearson ESL. ISBN: 0-13-943614-6. [Workbook: ISBN 0-13- 952839-3, Teacher's guide: ISBN 0-13-928565-2, Answer keys: ISBN 0-13-932898-X and 0-13946393-3]
- Greenbaum, S. and R. Quirk. 1990. *A student's grammar of the English language*. New York: Longman. ISBN: 0-582-05971-2.
- Thaker P.K. and others. Ed. 1997. *Developing English Skills*. New Delhi: OUP
- Wren, P. C. and H. Martin. *High School English Grammar and Composition*. (Gujarati). Trans. Dr. Usha Upadhyay and Jegeesha Upadhyay. New Delhi: S. Chand, 2013.



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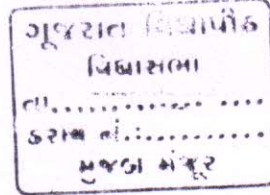
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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-VAC205	Course Title: Solid and E-Waste Management
Course Credit: 02	[Lecture/week: 02 , Tutorial: 00]
University Level Common Courses	





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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: VAC		Course Title: Solid and E-Waste Management
Course Credit: 02		[Lecture/week: 02 , Tutorial: 00]
Prerequisites:	Not Required	
Objectives:	<ol style="list-style-type: none"> 1. To make students aware about Solid Waste Generation. 2. To make students aware about the Disposal Process of Solid Waste. 3. Understand the Composition and Generation of E-Waste. 4. To make students aware about E-Waste Hazards. 5. Learn to identify E-Waste Control Measures. 6. Understand E-Waste Policy. 	
Unit	Lectures with break up	No. of Hrs.
1	Solid Waste Management	10
	<p>Introduction Solid Waste Management: Introduction, Solid Waste Generation, Metallic Wastes and Non-Metallic Wastes, Collection and Disposal of Municipal Solid Waste.</p> <p>Regulations: Air Quality Act 2004, Structure and Role of Central and State Pollution Control Board, Carbon Footprint and Carbon Credit, Environmental Management in Fabrication Industry, ISO 14000.</p>	
2	E-Waste Management	10
	<p>E-Waste Management: Introduction, About E-Waste, Generation, Global Context, E-Waste Pollutants, Hazardous Properties, Effects on Human Health and Environment, Domestic E-Waste Disposal, E-Waste Management, Technologies for Recovery of Resources from E-Waste, Steps in Recycling and Recovery of Materials, Different Perspectives of Recycling E-Waste.</p>	
3	E-Waste Control Measures	10
	<p>E-Waste Control Measures: Introduction, Free Trade Agreements of Waste Trading, E-Waste Economy in Sectors, Estimation and Recycling of E-Waste in Metro Cities, Health Safeguards and Environmental</p>	



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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

	Regulations: Protection Laws, Extended Producers Responsibility, Producer-Public-Government Cooperation, Administrative Controls and Engineering Controls, Effective Regulatory Mechanism, Reduction of E-Waste at Source, E-Waste Rules and Policy, International Legislation, RoHS Directives.	
Course Outcomes:	Upon completion of the course, students shall be able to	
CO1	Analyse real life problems associated with Solid Waste generation.	
CO2	Get a solution to the disposal process of Solid Waste.	
CO3	Understand the environmental impacts of E-Waste.	
CO4	Apply concepts of e-waste management hierarchy.	
CO5	Distinguish the role of various national and internal acts and laws applicable for E-Waste management and handling.	
CO6	Analyse the E-Waste management measures proposed under national and global legislations.	
Course Objective(O) and Course Outcomes(CO) Mapping:		
➤	O1 - CO1	
➤	O2 – CO2	
➤	O3 - CO3, CO4	
➤	O4 – CO5	
➤	O5 – CO4, CO5	
➤	O6 – CO6	

Text & Reference Books:	
1	सुब्रत रोय, पर्यावरणीय विज्ञान, AICTE, 2021
2	सुब्रत रॉय, पर्यावरण विज्ञान, AICTE, 2021
3	Subrat Roy, Environmental Science, AICTE, 2021
4	Johri R, E-Waste: Implications, Regulations and Management in India and Current Global Best Practices, The Energy and Resources Institute, TERI, 2009
5	Fowler B, Electronic Waste, Academic Press, 2017
6	Hester R E and Harrison R M, Electronic Waste Management, Royal Society of Chemistry, 2008
Web & Other Study Resources:	
1	e-Kumbh
2	Swayam
Teaching Methodology:	



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	Classroom Teaching, Seminar, Group Discussion, Assignment, Case Study, Presentation.
Evaluation:	
	100% Internal



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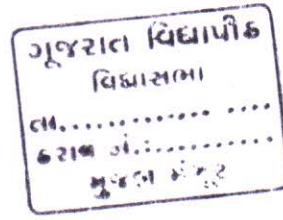
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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-SEC206	Course Title: Skill Enhancement Course
Course Credits: 03	[Lab Hours/week:06]
University Level Common Courses	





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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-SEC	Course Title: Image and Video Editing	
Course Credits: 2+1 (Lab Based)	[Lectures/week: 03 , Tutorial: 00]	
Prerequisites	Basic Knowledge of Image and video editing.	
Objectives:	<ol style="list-style-type: none"> 1. Navigate the Image interface 2. Perform basic photo retouching tasks 3. Understand how to work with layers 4. Use effects and filters 5. Combine two separate images into one 6. Understand image resolution and file output for print and web graphics 	
Unit	Lecture with Break-up	Practical Hrs.
1	Introduction to Image Editing tool & Its Features	10
	<ul style="list-style-type: none"> • Image tool Short cuts & Commands • Image size and Resolution • Opening File • Image Editing Menus • Palettes • Image Colour Modes 	
2	Image Editing	15
	<ul style="list-style-type: none"> • Image – Adjustments • Image Size, Cut, Past • Brightness, Contras • Colour Correction • Writing tool, Shapes • Photo lightings & it's effects • Temperature and colour options for background shades 	
3	Documents format Conversion	05
	<ul style="list-style-type: none"> • PDF Presentation, • Slide show presentation, New document properties • Inserting of images • About colour information, Colour Modes (Bitmap, RGB, CMYK, Grayscale) 	
4	Working with Image Editing Tools	30
	Rectangular Marquee Tool, Elliptical marquee tool, single row marquee tool, single column marquee tool, Move tool, magic wand tool, quick selection tool, lasso tool, polygonal lasso tool, magnetic lasso tool, Crop tool, slice tool, slice select tool, eyedropper tool, colour sampler tool, ruler tool, note tool, count tool, Spot healing brush tool, healing brush tool, patch tool, red eye tool, brush tool, pencil tool, colour replacement tool, mixer brush tool, Clone stamp tool, pattern tool, history brush tool,	



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	art history tool, Eraser tool, background eraser tool magic eraser, gradient tool paint bucket tool, Pen tool, freeform pen tool, add anchor point tool, delete anchor point tool, convert to point tool, horizontal type tool, vertical type tool, horizontal type mask tool, vertical type mask tool, Path selection tool, direct selection tool, custom shape tools, hand tool, zoom tool, Blur tool, sharpen tool, smudge tool, dodge tool, burn tool, sponge tool	
5	Working with layers & layer styles	10
	<ul style="list-style-type: none">• Create New Layer• Layer Visibility• Layer Locking Options• Layer Blending Mode• Fill• Opacity• Layer Lock• Layer Options Menu• Filters• File Formats• Save and Export	
6	Video Editing Tool	20
	<ul style="list-style-type: none">• Screenplay and Direction• Sound Design• Continuity• Titling• Picture Management• Colour Correction• Special Effects (Video Editing Course Details)• Principles of Editing• Editing for the genre• Film Appreciation• Cinematography• Operations and Movements(Pan, Lilt, Trolley, Dolly, Crane)• Adobe After Effects• Digital Filmmaking• Post Production Tools	



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B.C.A. (2nd Semester) Syllabus

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Application of Photoshop	
	<ul style="list-style-type: none">• Advertisement creation,• wallpapers,• websites,• jewellery design creation,• fashion designing,• animations & 3d effects• software development, and designs,• image modification
Web & Other Study Resources:	
1	https://creativecloud.adobe.com/learn/app/photoshop
2	https://www.youtube.com/watch?v=ZByhs9mDtDg&list=PLW-zSkCnZ-gA5Jn6gZtUa6-aG0OoRZyb6
3	https://www.youtube.com/watch?v=9trhuOryOrU
4	https://www.youtube.com/watch?v=qvQie2QP5Vg
5	https://www.youtube.com/watch?v=xTzvQkOll2U
6	https://www.youtube.com/watch?v=ZByhs9mDtDg
7	https://www.nobledesktop.com/classes/photoshop-beginner
8	https://www.youtube.com/watch?v=M3heQ93iEAg
Teaching Methodology:	
	Classroom Teaching, Presentation, Assignments, Hands-on Activity.
Evaluation:	
	100% Internal

સાંધ : Unit 1 to 4 Applicable for 2 credit course (60 Hrs)

Unit 5 and 6 are additional units which applicable for 3 credit course (90 Hrs)



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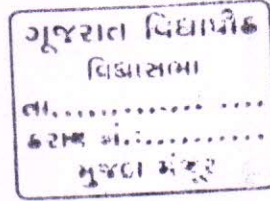
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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-LAB-207	Course Title: Lab Based on BCA-MJ201 Computer Programming (C)
Course Credits: 02	[Lab Hours/week: 04]
Prerequisites:	Basic knowledge of Programming language and subject knowledge.
Objectives:	Make theoretical concepts clearer through practical implementation.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation - Lab work and journal evaluation – 20 % 2. Practical evaluation -Practical Exam – 20% External: Practical Exam 60%





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B.C.A. (2nd Semester) Syllabus

Effective from 2023-2024

Course Code: BCA-LAB-208	Course Title: Lab Based on BCA-MN202 Web Design-II
Course Credits: 02	[Lab Hours/week:04]
Prerequisites:	Basic knowledge of Programming language and subject knowledge.
Objectives:	Make theoretical concepts clearer through practical implementation.
Evaluation:	
	Internal - 40 % 1. Continuous evaluation - Lab work and journal evaluation – 20 % 2. Practical evaluation -Practical Exam – 20% External: Practical Exam 60%

