

# **Krantiguru Shyamji Krishna Verma Kachchh University**



## **CURRICULAM AND CREDIT FRAMEWORK FOR BCA 3 YEARS AND 4 YEARS PROGRAMMES**

**AS PER THE NEP 2020**

## **Guidelines, Rules and Regulations**

### **1. Title**

The degree shall be titled as '**Bachelor of Computer Application**' under the faculty of commerce with effect from the academic year

**BCA Sem I & II from Academic Year 2023-24**

**BCA Sem III & IV from Academic Year 2024-25**

**BCA Sem V & VI from Academic Year 2025-26**

**BCA Sem VII & VIII from Academic Year 2026-27**

### **2. Objective of the Program**

1. The primary objective of this program is to provide a foundation of computing principles and business practices for effectively using/managing information systems and enterprise software
2. It helps students analyze the requirements for system development and exposes students to business software and information systems
3. This course provides students with options to specialize in legacy application software, system software or mobile applications
4. To produce outstanding IT professionals who can apply the theoretical knowledge into practice in the real world and develop standalone live projects themselves
5. To provide opportunity for the study of modern methods of information processing and its applications.
6. To develop among students the programming techniques and the problem- solving skills through programming
7. To prepare students who wish to go on to further studies in computer science and related subjects.
8. To acquaint students to Work effectively with a range of current, standard, Office Productivity software applications

### **3. Program Outcomes**

1. Discipline knowledge: Acquiring knowledge on basics of Computer Science and ability to apply to design principles in the development of solutions for problems of varying complexity
2. Problem Solving: Improved reasoning with strong mathematical ability to Identify, formulate and analyze problems related to computer science and exhibiting a sound knowledge on data structures and algorithms.

3. Design and Development of Solutions: Ability to design and development of algorithmic solutions to real world problems and acquiring a minimum knowledge on statistics and optimization problems. Establishing excellent skills in applying various design strategies for solving complex problems.
4. Programming a computer: Exhibiting strong skills required to program a computer for various issues and problems of day-to-day applications with thorough knowledge on programming languages of various levels.
5. Application Systems Knowledge: Possessing a sound knowledge on computer application software and ability to design and develop app for applicative problems.
6. Modern Tool Usage: Identify, select and use a modern scientific and IT tool or technique for modeling, prediction, data analysis and solving problems in the area of Computer Science and making them mobile based application software.
7. Communication: Must have a reasonably good communication knowledge both in oral and writing.
8. Project Management: Practicing of existing projects and becoming independent to launch own project by identifying a gap in solutions.
9. Ethics on Profession, Environment and Society: Exhibiting professional ethics to maintain the integrity in a working environment and also have concern on societal impacts due to computer-based solutions for problems.
10. Lifelong Learning: Should become an independent learner. So, learn to learn ability.
11. Motivation to take up Higher Studies: Inspiration to continue educations towards advanced studies on Computer Science.

#### 4. Credit Framework for 3 Years/4 Years UG Programme

NCrF Credit Levels	Qualification Title	Credit Requirement	No. of Semesters	Year
4.5	UG Certificate	44	2	1
5.0	UG Diploma	88	4	2
5.5	Three Years Bachelors Degree	132	6	3
6.0	Bachelor's Degree with Honors OR Bachelor's Degree with Honors with Research			
<ul style="list-style-type: none"> <li>• 1 credit = 1 Hour of Theory</li> <li>• 1 credit = 2 Hour of Practical/Project</li> </ul>				

## **5. Degree programs offered by Faculty**

- Bachelor of Science (Honors) / Bachelor of Science (Honors with Research) (4-Year Programme) and maximum duration of the programme is 7 Years.

## **6. Minimum Eligibility:**

- 1) H.Sc. or an equivalent examination from a recognized board of examinations with science stream, commerce stream and arts stream with English or computer as a subject.
- 2) Diploma (After SSC) in Computer Science or Information Technology from recognized university is eligible to take admission in first year of BCA.
- 3) Students who secure 75% marks or above in the first six semesters will be eligible for choosing a research stream in the fourth year. These students will be required to undertake a rigorous research project or Dissertation under the guidance of a research guide in prominent research area of computer science. These students will be awarded BCA - (Honors with Research) on successful completion of four years.
- 4) In take capacity of BCA - (Honors with Research) program will be determined based on the availability of research guides in the department/Institute.

## 7. CREDIT FRAMEWORK FOR INTEGRATED PROGRAMMES (BCA)

### BCA – Bachelor of Computer Application)

Arrangement of Credit Distribution Framework for three/four years Honors/Honors with Research Degree Programme with Multiple Entry and Exit Options  
(As per GR No: KCG/admin/2023-24/0607/kh.1, Sachivalaya, Gandhinagar, Date-11/07/2023)

Sr.No	Broad Category of Courses	Credit Requirement of Each Category				
		Certificate (1 Year)	Diploma (2 Years)	3-Year UG	4-Year UG (Honors)	4-Year UG (Honors+Research)
1.	Major - Core Courses	16	40	64	88	88
2.	Minor-Discipline Specific Electives	08	12	24	32	32
3.	Multidisciplinary Courses Open Electives	08	12	12	12	12
4.	Ability Enhancement Courses(AEC)	04	08	10	10	10
5.	Skill Enhancement Courses(SEC)	04	08	14	14	14
6.	Value Added Courses (VAC)	04	08	08	08	08
7.	Summer Internship/ Research Project /Dissertation	-	-	-	12	12
8.	Exit Courses	04	04	-	-	-
<b>9.</b>	<b>Total</b>	<b>48</b>	<b>92</b>	<b>132</b>	<b>176</b>	<b>176</b>

**Structure of Integrated Programme of Master of Science (BCA)  
AS PER NATIONAL EDUCATION POLICY 2020  
Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj-Kachchh-370001**

NCrF Credit Level	Semester	Major Core	Minor	Multi/Inter-disciplinary	Ability Enhancement Courses (AEC)	Skill Enhancement Courses (SEC)	Value Added Courses (VAC)/IKS	Research Project /Dissertation	Total Credits	Qualification/ Certificate
4.5 First Year	I	08	04	04	02	02	02	-	22	UG Certificate
	II	08	04	04	02	02	02	-	22	
<b>1<sup>st</sup> Year Credit Total</b>		16	08	08	04	04	04		44	
<i>Exit 1: Award of UG certificate in Major course with 44 credits with additional 4 credits of Summer Internship in core specific NSQF defined course OR continue with Major and Minor course for the next NCrF credit level</i>										
5.0 Second Year	III	12	-	04	02	02	02	-	22	UG Diploma
	IV	12	04	-	02	02	02	-	22	
<b>2<sup>nd</sup> Year Credit Total</b>		40	12	12	08	08	08	-	88	
<i>Exit 2: Award of UG Diploma in Major course with 88 credits with additional 4 credits of Summer Internship in core specific NSQF defined course OR continue with Major and Minor course for the next NCrF credit level</i>										
5.5 Third Year	V	12	08	-	-	02	-	-	22	UG Degree
	VI	12	04	-	02	04	-	-	22	
<b>3<sup>rd</sup> Year Credit Total</b>		64	24	12	10	14	8	-	132	
<i>Award of UG Degree in Major course with 132 credits with internship in core discipline.</i>										

6.0 Fourth Year	VII	12	04	-	-	-	-	06 (OJT)	22	<i>UG Honors Degree</i>
	VIII	12	04	-	-	-	-	06 (OJT)	22	
4 <sup>th</sup> Year Credit Total		88	32	12	10	14	8	12	176	

***Award of UG Honors Degree in Major course with 176 credits.***

6.0 Fourth Year	VII	12	04	-	-	-	-	06 (RP)	22	<i>UG Honors With Research Degree</i>
	VIII	12	04	-	-	-	-	06 (RP)	22	
4 <sup>th</sup> Year Credit Total		88	32	12	10	14	8	12	176	

***Award of UG Honors with Research Degree in Major course with 176 credits.***

	<i>* OJT – On the Job Training * RP – Research Project With Major Core Courses Only</i>
	<i>* MDC – Multidisciplinary Courses</i>

**BCA Course Outline with Subject Titles**

Semester	Course No.	Course Type	Name of the Subject	Theory / Practical	Marks		Credits
					IA	UA	
1.	101	BCADSC101	Introduction to Programming using C	Theory	25	25	2
		BCADSC101-P	Lab: Programming in C	Practical	25	25	2
	102	BCADSC102	Web Designing Using HTML, CSS & Javascript	Theory	25	25	2
		BCADSC102-P	Lab: Web Designing Using HTML, CSS & Javascript	Practical	25	25	2
	101 A	BCADSE101A	Digital Electronics	Theory			4
	101 B	BCADSE101B	M-Commerce				
	101 A	BCAMD101A	Statistics	Theory	50	50	4
	101 B	BCAMD101B (Select Any One)	Spoken English – I				
	101 A	BCAAE-101A	General English	Theory	25	25	2
	101 B	BCAAE-101B	Gujarati				
101 C	BCAAE-101C	Hindi					
101 D	BCAAE-101D (Select Any One)	Sanskrit					
101	BCASE-101	Computer Fundamentals	Theory	25	25	2	
101A	BCAVAC-101A	Introduction to Indic Knowledge System – I	Theory	25	25	2	
101B	BCAVAC-101B (Select Any One)	Bhagavad Gita and Life Management					



BCA Course Outline with Subject Titles							
Semester	Course No.	Course Type	Name of the Subject	Theory / Practical	Marks		Credits
					IA	UA	
2.	201	BCADSC201	Introduction to Python	Theory	25	25	2
		BCADSC101-P	Lab: Introduction to Python	Practical	25	25	2
	202	BCADSC202	Web Programming using PHP	Theory	25	25	2
		BCADSC202-P	Lab: Web Programming using PHP	Practical	25	25	2
	201 A 201 B	BCADSE201A BCADSE201B (Select Any One)	Discrete Mathematics Management Information Systems	Theory	50	50	4
	201 A 201 B	BCAMD201A BCAMD201B (Select Any One)	Fundamentals of Accounting Spoken English-II	Theory	50	50	4
	201 A 201 B 201 C 201 D 201 E	BCAAE-201A BCAAE-201B BCAAE-201C BCAAE-201D BCAAE-201E (Select Any One)	English Gujarati Hindi Sanskrit Presentation & Soft Skills	Theory	25	25	2
	201	BCASE-101	MS Office Tools Practical	Practical	25	25	2
	201A 201B 201C 201D 201E 201F	BCAVAC-201A BCAVAC-201B BCAVAC-201C BCAVAC-201D BCAVAC-201E BCAVAC-201F (Select Any One)	Human Values and Professional Ethics NCC Youth, Leadership and Nation Building (NSS) Yoga- Nityansh Try to Understand our Mother Earth Integrated Personality Development Course-1	Theory	25	25	2
	<i>Exit Course</i>	<i>BCAEX-001</i>	<i>Summer Internship and Viva</i>		-	100	4

## 8. Evaluation System:

8.1 Internal Assessment will be based on CCE (Continuous and comprehensive Evaluation) Scheme as under:

<b>4 Credit Course</b>		
<b>Sr. No</b>	<b>Mode</b>	<b>Marks</b>
1.	Test	25 Marks
2.	CCE Activities ( Quizzes, Attendance, Seminar, Assignments etc	25 Marks
<b>Total</b>		<b>50 Marks</b>

<b>2 Credit Course</b>		
<b>Sr. No</b>	<b>Mode</b>	<b>Marks</b>
1.	Test	15 Marks
2.	CCE Activities ( Quizzes, Attendance, Seminar, Assignments etc	10 Marks
<b>Total</b>		<b>25 Marks</b>

8.2 External evaluation will be based on Semester End Evaluation (SEE) pattern.

The SEE carries 50% of the marks assigned to a course. SEE shall be of 2 ½ hours for 4 credit course and 2 hours in case of 2 credit courses. The controller of the examination will conduct these examinations. Paper setting and evaluation will be done by the external examiners to an extent of 50% of the evaluation process. This examination shall be conducted as per a schedule which shall be notified in advance.

Component, the end semester examination, which will be a written-type examination of at 2:30 hours duration, would also form an integral component to the evaluation. The ratio of marks to be allotted to continuous internal assessment and to end semester examination is 50:50.

The external evaluation pattern would be based on the written examination taken at the end of the semester. The format includes subjective, objective and applications questions so the test of students can be done on parameters like conceptual knowledge, its application in actual sense, his or her memory and presence of mind. The structure is as under:

<p align="center"><b>Table 1.1</b></p> <p align="center"><b>BCA – 3 Years and 4 Years Programme</b></p> <p align="center"><b>Structure of the University or External Exam for 4 Credit Course</b></p>		
Q-1 All Units	Objective Questions  (It can include: definitions, FIBs, True or false, one line answers, MCQs etc)	10
Q-2 (Unit -1)	Answer two short questions carrying 2 marks respectively (Compulsory) Answer two questions, Short notes carrying 3 marks respectively (3 out of 4)	10
Q-3 (Unit -2)	Answer two short questions carrying 2 marks respectively (Compulsory) Answer two questions, Short notes carrying 3 marks respectively (3 out of 4)	10
Q-4 (Unit -3)	Answer two short questions carrying 5 marks respectively OR Any one question which could be a long question, case study, application of concepts, practical problem etc carrying 10 marks	10
Q-5 (Unit -4)	Answer two short questions carrying 5 marks respectively OR Any one question which could be a long question, case study, application of concepts, practical problem etc carrying 10 marks	10
<p align="center"><b>Note - University examination will be of 50 Marks and 150 minutes (2.30Hrs.)</b></p>		

<b>Table 1.2</b> <b>BCA – 3 Years and 4 Years Programme</b> <b>Structure of the University or External Exam for 2 Credit Course</b>		
Q-1 All Units	Objective Questions  (It can include: definitions, FIBs, True or false, one line answers, MCQs etc)	05
Q-2 (Unit -1)	Answer two short questions carrying 2 marks respectively (Compulsory) Answer two questions, Short notes carrying 3 marks respectively (3 out of 4)	10
Q-3 (Unit -2)	Answer two short questions carrying 2 marks respectively (Compulsory) Answer two questions, Short notes carrying 3 marks respectively (3 out of 4)	10
<b>Note - University examination will be of 25 Marks and 120 minutes (2Hrs.)</b>		

<b>Table 1.3</b> <b>BCA – 3 Years and 4 Years Programme</b> <b>Structure of the University or External <u>Practical Exam</u> for 2 Credit Course</b>		
<b>Sr.No</b>	<b>Contents</b>	<b>Marks</b>
1.	Practical	15
2.	Viva	10
<b>Total</b>		<b>25</b>

## BCA - Semester: I

<b>Course Code:</b>	BCADSC101	<b>Course Title:</b>	Introduction to Programming using C
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

Unit	Contents
1	<p><b>Basics of Programming-</b> Compiler, Interpreter, Linker, Loader, Algorithm, Flowchart, Testing and Execution. Examples of flow charts and algorithms</p> <p><b>Programming Tokens:</b> Keywords, Identifiers, Constants, Variables, Data types, defining symbolic constants, Simple Programs.</p> <p><b>Programming Concepts:</b> Operators &amp; Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Special operators, Type Conversion in expressions, Operator precedence, Mathematical functions.</p>
2.	<p><b>Input/output Functions:</b> Unformatted &amp; formatted I/O functions.</p> <p><b>Branching and Looping:</b> Simple 'if' statement, Nested if Statement, Ladder 'if-else' statement. The 'Switch' statement, GOTO statement. Looping: for, while, do-while loop, Nested loops and jumps in loops - break, continue statement.</p> <p><b>Arrays, Strings and Functions:</b> Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. Strings: String constant and variables, Declaration and initialization of string, Input/output of string data, String Handling Functions: strlen, strcat, strcmp, strcpy, strev. Functions: Definition, types of user defined functions, prototype, Local and global variables, passing parameters, recursion</p>
<p><b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b></p>	

## BCA - Semester: I

<b>Course Code:</b>	BCADSC101 P	<b>Course Title:</b>	Lab: Programming in C
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2 Hrs		

Unit	Contents
1	<p><b>Programming Tokens:</b> Keywords, Identifiers, Constants, Variables, Data types, defining symbolic constants, Simple Programs.</p> <p><b>Programming Concepts:</b> Operators &amp; Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Special operators, Type Conversion in expressions, Operator precedence, Mathematical functions.</p> <p><b>Input/output Functions:</b> Unformatted &amp; formatted I/O functions.</p> <p><b>Branching and Looping:</b> Simple 'if' statement, Nested if Statement, Ladder 'if-else' statement. The 'Switch' statement, GOTO statement. Looping: for, while, do-while loop, Nested loops and jumps in loops - break, continue statement.</p>
2.	<p><b>Arrays, Strings and Functions:</b> Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. Strings: String constant and variables, Declaration and initialization of string, Input/output of string data, String Handling</p> <p>Functions: strlen, strcat, strcmp, strcpy, strrev.</p> <p>Functions: Definition, types of user defined functions, prototype, Local and global variables, passing parameters, recursion. Introduction to Structures, Union &amp; Pointers.</p>
<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>	

<i>List of Sample Programs</i>
1. Find the area of a circle and area of a triangle given three sides.
2. Largest of three numbers.
3. Reversing the digits of an integer.
4. GCD of two integers.
5. Generating prime numbers.
6. Computing nth Fibonacci numbers.

7. Finding Even and Odd numbers.
8. Exchanging the values of two variables.
9. Counting: Print number from 100 to 200 which are divisible by 7 and display their sum and count
using for loop.
10. Summation of set of Numbers.
11. Factorial Computation.
12. Generation of Fibonacci sequence.
13. Array Order Reversal.
14. Finding the Maximum Number in a Set.
15. Removal of Duplicates from an Ordered Array.
16. Partitioning an Array.
17. Finding the Smallest Element.
18. Read N (minimum 5) students marks and find number of students passed and fail depending on the
marks.
19. Count the number of vowels, consonants and special characters in a given sentence.
20. To find the addition and subtraction of two matrices using function.
21. Write the C program to demonstrate the concept of Structure
22. Write the C program to demonstrate the concept of Union
23. 21. Write the C program to demonstrate the concept of Pointers

## BCA - Semester: I

<b>Course Code:</b>	BCADSC102	<b>Course Title:</b>	Web Designing Using HTML, CSS & Javascript
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2Hrs</b>		

Unit	Contents
1.	<p>The Internet and Web Browsers Introduction to the Internet History of the Internet Services provided by the Internet Some basic terminology and concepts (WWW, URL, webpage, web site, web servers, web browsers, HTML, search engines, etc.)</p> <p>Web Page Designing-I</p> <p>An introduction to HTML HTML tags Structure of an HTML document Text and paragraph formatting Ordered and unordered lists, nested lists, HTML tables Hyperlinks Images Frames, framesets, nested framesets</p> <p>Designing HTML forms Introduction to DHTML &amp; Cascading Style Sheets What is DHTML? Applications of DHTML Components of DHTML Scripting : introduction, client-side v/s server-side Introduction to Cascading Style Sheets (CSS) Ways of specifying style – inline, internal, external</p>
2.	<p>Basics of JavaScript Font, color, background, text, border, margin and list related attributes. Use of classes, spans, divs. Working with layers Introduction to JavaScript. Applications and advantages of JavaScript. Using JavaScript on a webpage</p> <p>Advanced JavaScript JavaScript basics – syntax, data types and literals, type casting, variables, operators, arrays. Flow control statements. Built-in functions Working with strings, numbers, dates &amp; times, etc. User interaction through dialog boxes. User-defined functions.</p>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>





## BCA - Semester: I

<b>Course Code:</b>	BCADSC102 P	<b>Course Title:</b>	Lab: Web Designing Using HTML, CSS & Javascript
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2 Hrs</b>		

Unit	Contents
1.	<p>HTML tags ,Structure of an HTML document, Text and paragraph formatting, Ordered and unordered lists, nested lists, HTML tables, Hyperlinks, Images , Frames, framesets, nested framesets.</p> <p>Designing HTML forms with all different form controls.</p> <p>Introduction to DHTML &amp; Cascading Style Sheets.</p> <p>Components of DHTML Scripting</p> <p>Baisc Cascading Style Sheets (CSS) Ways of specifying style – inline, internal, external</p>
2.	<p>Basics of JavaScript Font, color, background, text, border, margin and list related attributes. Use of classes, spans, divs. Working with layers Introduction to JavaScript. Applications and advantages of JavaScript. Using JavaScript on a webpage</p> <p>Advanced JavaScript JavaScript basics – syntax, data types and literals, type casting, variables, operators, arrays. Flow control statements. Built-in functions Working with strings, numbers, dates &amp; times, etc.</p> <p>User interaction through dialog boxes. User-defined functions.</p>
<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>	

## BCA - Semester: I

<b>Course Code:</b>	BCADSE101A	<b>Course Title:</b>	Digital Electronics
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	04
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50
<b>Exam Duration</b>	<b>2.30Hrs</b>		

Unit	Contents
1.	Introduction to Digital Electronics, Digital vs Analog, Evolution of Digital technology.
2.	<b>Gates and Boolean Algebra</b> Gates, Boolean algebra, Practice of Simplification using Boolean Algebra, Truth tables, Importance of TT, creating truth tables, Circuit equivalence, drawing circuit diagrams, De Morgan's theorem, implementing De Morgan's theorem in equations.
3.	<b>Basic Digital Logic Circuits</b> Usage of Karnaugh maps, simplification using K-maps, Encoders, decoders, comparators Half adder, full adder, binary adder-subtraction Multiplexers
4.	<b>Memory Elements &amp; Counters</b> D Flip flops, Shift-left, shift-right and buffer registers Simple Ring counters
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCASemester: I

<b>Course Code:</b>	BCADSE101B	<b>Course Title:</b>	M-Commerce
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	04
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50
<b>Exam Duration</b>	<b>2.30Hrs</b>		

Unit	Contents
1.	<p><b>E-Commerce</b>                      Introduction -The e-commerce environment - The e-commerce marketplace -Focus on portals, Location of trading in the marketplace - Commercial arrangement for transactions - Focus on auctions                      - Business models for e-commerce - Revenue models - Focus on internet start-up companies – the dot-com - E-commerce versus E-business.</p>
2.	<p><b>M-Commerce</b>                      Introduction – Infrastructure Of M– Commerce – Types Of Mobile Commerce Services – Technologies Of Wireless Business – Benefits And Limitations, Support, Mobile Marketing &amp; Advertisement, Non– Internet Applications In M– Commerce –Wireless/Wired Commerce Comparisons</p>
3.	<p><b>M-Commerce – Technology</b>                      A Framework For The Study Of Mobile Commerce                      NTT Docomo’s I– Mode                      Wireless Devices For Mobile Commerce                      Towards A Classification Framework For Mobile Location Based Services                      Wireless Personal And Local Area Networks                      The Impact Of Technology Advances On Strategy                      Formulation In Mobile Communications Networks</p>
4.	<p><b>M-Commerce – Theory and Application</b>                      The Ecology Of Mobile Commerce                      The Wireless Application Protocol                      Mobile Business Services                      Mobile Portal                      Factors Influencing The Adoption Of Mobile Gaming Services                      Mobile Data Technologies And Small Business Adoption And Diffusion M–Commerce In The Automotive Industry                      Location– Based Services: Criteria For Adoption And Solution Deployment                      The Role Of Mobile Advertising In Building A Brand                      M– Commerce Business Models</p>

	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>
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**BCA - Semester: I**

<b>Course Code:</b>	BCAMD101A	<b>Course Title:</b>	Statistics
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50

<b>Exam Duration</b>	<b>2.30Hrs</b>		

<b>Unit</b>	<b>Contents</b>
1.	<b>Set Theory:</b> Definition of a set, Elements of a set, Types of sets: finite, infinite, singleton, empty or null or void set, equal sets, equivalent sets, subsets & proper subset, power set, universal set. Operations on sets: Intersection, Union, Complement of a set, Difference of two sets, De-morgan's law.
2.	<b>Differential Calculus:</b> Definition, rules for differentiating functions (addition, subtraction, product and quotient), derivative of an algebraic function, exponential function & logarithmic function, composite functions – the chain rule, higher derivatives, business applications
3.	<b>Business Statistics:</b> Introduction to statistics, definitions, origin and growth, function of statistics, managerial applications, scope of statistics, misuse and limitations of statistics. Collection of data, introduction, primary and secondary data, methods of collection, designing of a questionnaire, sources of secondary data, census and sample. Presentation of data, types of classifications, rules of classification, construction of discrete and continuous frequency distributions, charting of data. Measures of central tendency, properties, arithmetic mean, geometric mean, harmonic mean, median, mode, quartiles, deciles and percentiles, merits and demerits of each of these measures of central tendency.
4.	<b>Business Statistics:</b> Measures of dispersion, properties, absolute and relative measure, range, quartile deviation, mean deviation, standard deviation, co-efficient of variation, merits and demerits of measures of dispersion.
	<b>Reference Books:</b>  Business mathematics by Sancheti and Kapoor  Business mathematics by B S Shah Prakashan
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: I

<b>Course Code:</b>	BCAMD101B	<b>Course Title:</b>	Spoken English - I
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50
<b>Exam Duration</b>	<b>2.30Hrs</b>		

Unit	Contents
1.	<p>Communication Skill: An Overview</p> <p>1. Nature, importance, and purpose of communication 2. Process of communication 3. Types of communication 4. Barriers to the communication</p>
2.	<p>Telephone Etiquettes</p> <p>1. How to receive/answer calls 2. Professional way of making calls 3. Taking messages 4. Ending telephonic conversation</p>
3.	<p>Ability &amp; Skill Enhancement for Everyday Communication</p> <p>1. Usage English in real life situation: At a bank/post office/college office, grocery store, at the temple, etc. 2. Patterns: greeting, introduction, request, invitation, gratitude, compliment, congratulation, apology, etc</p>
4.	<p>English for Desk Management</p> <p>i. Greeting, Welcoming ii. Dealing with Complaints, Giving Instructions and Directions iii. Giving Information about Various Facilities iv. Accepting Praises and Criticism, Apologizing</p>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: I

<b>Course Code:</b>	BCAAE-101A	<b>Course Title:</b>	General English
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

Unit	Contents
1.	<p><b>Vocabulary and Grammar:</b> Synonyms and Antonyms; One word substitution; Usage of Noun, Pronoun, Articles, Prepositions, Conjunctions, Tenses, Modal Auxiliaries, Types of Sentences.</p>
2.	<p><b>Introduction to communication:</b> Definition, meaning and significance of communication, Process of communication, its nature and its need. Introduction to different forms of Communication.</p> <p><b>Writing Skills:</b></p> <p>1. Letters of Enquiry, Replies to Enquiry; Quotation and Voluntary offers ; Placing of Orders, Execution of Order, Cancellation of Order;</p>
	<p><b>Reference Books:</b> Student Learner's Dictionary (Oxford) English Grammar and Composition by Wren and Martin Business communications by Neeru Vashishth, Namita Rajput</p>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>



## BCA - Semester: I

<b>Course Code:</b>	BCAAE-101B	<b>Course Title:</b>	Gujarati
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

Unit	Particulars	No. of Lectures\ Hours
એકમ -૧	(ક) કહેવત (ખ) રૂઢિપ્રયોગ (ગ) સંજ્ઞા	૧૫
એકમ-૨	(ક) જોડણી (ખ) સમાનાર્થી (ગ) વિરૂઢધાર્થી	૧૫
	કુલ	૩૦

### પ્રશ્નપત્રનું માળખું

પ્રશ્ન	એકમ	પ્રશ્ન પ્રકાર	ગુણભાર
૧	૧	(ક) કહેવત પુછવી, જેનો અર્થ આપો (પાંચ માંથી ત્રણ) – ૦૫ માર્ક્સ (ખ) રૂઢિપ્રયોગનો અર્થ આપી, વાક્યમાં પ્રયોગ કરો (પાંચ માંથી ત્રણ) – ૦૫ માર્ક્સ (ગ) ટૂંકનોંધ પ્રકારનો પ્રશ્ન – ૦૫ માર્ક્સ	૧૦
૨	૨	(ક) જોડણી સુધારો (દશ માંથી આઠ) – ૦૪ માર્ક્સ (ખ) સમાનાર્થી શબ્દ આપો (આઠ માંથી છ) – ૦૩ માર્ક્સ (ગ) સમાનાર્થી શબ્દ આપો (આઠ માંથી છ) – ૦૩ માર્ક્સ	૧૦
૩	૧ થી ૨	બહુવિકલ્પી પ્રશ્નો અથવા ખાલી જગ્યા પુછવી (સાત માંથી પાંચ)	૦૫
		કુલ	૨૫

## BCA - Semester: I

<b>Course Code:</b>	BCAAE-101C	<b>Course Title:</b>	Hindi
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

❖ पाठ्य-क्रम संरचना :

इकाई क्रम	विषय-वस्तु
१	<ul style="list-style-type: none"><li>➤ ईदगाह- प्रेमचंद</li><li>➤ दो बाँके - भगवतीचरण वर्मा</li><li>➤ भोलाराम का जीव- हरिशंकर परसाई</li><li>➤ वापसी- उषा प्रियंवदा</li></ul>
२	<ul style="list-style-type: none"><li>➤ पल्लवन (विचार विस्तार)</li><li>➤ संक्षेपण</li><li>➤ अंग्रेजी पारिभाषिक शब्दावली का हिन्दी रूप</li></ul>

पारिभाषिक शब्दावली:

1. Abbreviation- संक्षिप्त रूप
2. Above all- सर्वोपरि
3. Above cited - ऊपर उद्धृत
4. Accept - स्वीकार करना
5. Additional - अतिरिक्त

6. Adhoc - तदर्थ
7. Application - प्रार्थना पत्र
8. Approval - अनुमोदन
9. As directed - निदेशानुसार
10. Basic pay - मूल वेतन
11. Business - व्यापार, कारोबार
12. By order - के आदेश से
13. Capital - पूँजी, राजधानी
14. Carried forward - अग्रेषित शेष
15. Carry out - कार्यान्वित करना
16. Circular - परिपत्र
17. Census - जनगणना
18. Collaboration - सहयोग
19. Complaint book - शिकायत पेटी
20. Conference - सम्मलेन/ सभा
21. Confidential - गोपनीय

22. Copy enclosed - प्रतिलिपि संलग्न
23. Delay regretted - विलम्ब के लिए खेद
24. Document - लेख/ दस्तावेज़
25. Drafting - आलेखन/ प्रारूपण
26. Employee - कर्मचारी
27. Financial - वित्तीय
28. For guidance - मार्गदर्शन के लिए
29. Gazette - राजपत्र/ गजेट
30. High court - उच्च न्यायालय
31. Index - सूचकांक
32. Interview - साक्षात्कार
33. Journalist - पत्रकार
34. Keep pending - विचाराधीन रखें
35. Laboratory - प्रयोगशाला
36. May be considered - विचार किया जाय

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

## BCA - Semester: I

<b>Course Code:</b>	BCAAE-101D	<b>Course Title:</b>	Sanskrit
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

### Sanskrit – Malvikagnimitram - Kalidas

UNIT 1	कवि-जीवन-कवन-समय: रूपकस्य-उद्भव-विकास:-प्रकार: आधारस्थान-परिवर्तन नाटकस्य लक्षणं च मालविकाग्निमित्रं - मूल्यांकनम्
UNIT 2	अङ्क - 1,2,3,4,5 नोध: अनुवाद, संदर्भ अपेक्षित नथी

आधार ग्रंथो: मालविकाअग्निमित्रं – डॉ. शान्तिकुमार पंडया वगेरे, पार्श्वप्रकाशन, अमदावाद  
मालविकाअग्निमित्रं – प्रा. पी.सी.दवे, प्रा.सुरेश ज. दवे, सरस्वती पुस्तक भंडार, अमदावाद

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

## BCA - Semester: I

<b>Course Code:</b>	BCASE-101	<b>Course Title:</b>	Computer Fundamentals
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2Hrs</b>		

Unit	Contents
1.	<b>Fundamentals of Computer</b> Evolution of Computers, Block diagram of computers, Types of Computers, Software, Types of Software, Hardware, Commonly used Hardware, Operating Systems, Types of OS, Anatomy of the CPU – SMPS, Motherboard, RAM, ROM, processor, Cache, BIOS.
2.	<b>Number systems</b> (Binary, Octal, Decimal, Hexa Decimal), Binary Arithmetic, 1's Complement, 2's Complement, ASCII, EBCDIC, UNICODE, GRAY CODE, Error Detection & Error Correction Techniques.
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: I

<b>Course Code:</b>	BCAVAC-101A	<b>Course Title:</b>	Introduction to Indic Knowledge System – I
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2Hrs</b>		

Unit	Topic
1	Introduction to IKS Introduction to IKS & Its importance Introduction & importance of IKS Various IKS Systems Shashtra – Foundational Literature of Bharatvarsha What is Shashtra? Importance of Shashtra Classification of Shashtra – Vaidic & Avidic (with examples of imp. Literature) Base of IKS proliferation Bhartiya Education System and its philosophy History of BES from Ancient to Modern Domains of Education: Gurukul, Pathshala, Vidyalay, Vishvavidyalay
2	Contribution of IKS to the World Mathematics & Astronomy Number System Algebra & Arithmetic Geometry Trigonometry Planetary System Speed of Light Eclipse Life sciences Physics Chemistry Botany Metal Technology Mining Techniques Types of Metals Tools & Techniques for Metal Smelting with examples  Town planning & Temple Architecture

	<p>Indigenous tools &amp; technologies for town planning &amp; Temple Architecture</p> <p>Science of Architecture</p> <p>Lothal, Mohan Jo Daro, Dholavira</p> <p>Angkorvat, Lepakshi Temple, Jagannath Puri Temple, Thanjavur Temple, Modhera and Konark Sun Temple, Hampi Temple Etc.</p> <p>Ayurveda</p> <p>Introduction of Ayurveda- Definition, Branches of Ayurveda, Books and Pioneers</p> <p>Concept of Tri Dosh and importance of its Balance in the body</p> <p>Indic Medical Science Achievement: Tools &amp; Technology</p> <p>Art &amp; Traditions</p> <p>History and Origin</p> <p>Skill Enhancement with 64 Kala</p> <p>Science behind our traditions and rituals</p>
	<p><b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b></p>



## BCA - Semester: I

<b>Course Code:</b>	BCAVAC-101B	<b>Course Title:</b>	Bhagavad Gita and Life Management
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

Unit	Contents
1.	<p><b>Bhagavad Gita:</b> Fundamental problems of human life and its answers in Bhagavad Gita;  <b>History:</b> Mahabharat, Ved Vyasji (Introduction to Ved); Impact of Bhagavad Gita on successful people of different domains.  <b>Origin of Bhagavad Gita:</b> Arjun- Duryodhan episode, Dhritrashtra Ved Vyas –episode, Kurukshetra battle field.</p>
2.	<p><b><u>Selected (8)10 Life changing mantras from Bhagavad Gita form 10 mantras symbol / icon</u></b></p> <ol style="list-style-type: none"> <li>1. <i>“Na hanyatehanyamanesharire ”</i> (Adhyay-2,Shlok –20)</li> <li>2. <i>“Karmanyevadhikaraste”</i> (Adhyay-2,Shlok –47)</li> <li>3. <i>“Ma tesangotstakarmani”</i> (Adhyay-2,Shlok –47)</li> <li>4. <i>“Yogasthah kuru karmani”</i> (Adhyay-2,Shlok –48)</li> <li>5. <i>“Siddhyashddyohosamobhutva”</i> (Adhyay -2,Shlok –48)</li> <li>6. <i>“Buddhi nashatpranashyati”</i>(Adhyay -2,Shlok –63)</li> <li>7. <i>“Prasade sarvadukhanamhani”</i>(Adhyay-2,Shlok –65)</li> <li>8. <i>“Swadharmenidhanamshreyah”</i>(Adhyay-3,Shlok–35)</li> <li>9. <i>“Uddhredatmnatmanamnatmanamvsadyet”</i> (Adhyay -6,Shlok –5)</li> <li>10. <i>“Na me bhaktahpranashyiti”</i> (Adhyay -9,Shlok–31)</li> </ol> <ol style="list-style-type: none"> <li>1. Bhagavad Gita with translation by Gita press Gorakhpur</li> <li>2. The Teachings of Bhagavad Gita by Swami Dayanand</li> <li>3. Bhagavad Gita by Swami Viditaatmaanand</li> </ol>
<p><b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b></p>	

# Semester 2

## BCA - Semester: II

<b>Course Code:</b>	BCADSC201	<b>Course Title:</b>	Introduction to Python
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2 Hrs</b>		

Unit	Contents
1	<p>Basics of Python: Operators, Conditional Structures, Control Structures, Loops.</p> <p><b>Strings:</b> Creating, initializing and accessing the elements; string operators: +, *, in, not in, range slice [n:m]; comparing strings using relational operators; String functions &amp; methods: len, capitalize, find, isalnum, isalpha, isdigit, lower, islower, isupper, upper, lstrip, rstrip, isspace, istitle, partition, replace, join, split, count, decode, encode, swapcase, String constants,</p> <p><b>Lists:</b> Concept of mutable lists, creating, initializing and accessing the elements, traversing, appending, updating and deleting elements, composition, lists as arguments</p> <p><b>List operations:</b> joining, slicing, +, *, in, not in</p> <p><b>List functions and methods:</b> len( ), insert( ), append( ), extend( ), sort( ), remove( ), reverse( ), pop( ), list( ), count( ), extend( ), index( ), cmp( ), max( ), min( )</p>
2.	<p><b>Dictionaries:</b> Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, traversing, appending updating and deleting elements</p> <p><b>Dictionary Functions and methods:</b> cmp( ), len( ), clear( ), get( ), has_key( ), items( ), key( ), update( ), values( ), pop( ), fromkeys( ), dict( )</p> <p><b>Tuples:</b> Immutable concept, creating, initialising and accessing elements in a tuple, Tuple assignment, Tuple slices, Tuple indexing,</p> <p><b>Tuple Functions:</b> cmp(), len(), max(), min(), tuple(), index(), count(), sum(), any(), all(), sorted(), reversed()</p> <p><b>Regular Expressions and Pattern Matching using re Module.</b></p>
	<p><b>Reference Books</b></p> <p>1. Python Essential Reference -David Beazley</p> <p>2. Programming Python – Mark Lutz, O'Reily</p>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: II

<b>Course Code:</b>	BCADSC201 P	<b>Course Title:</b>	Lab: Introduction to Python
<b>Course Credits:</b>	02	<b>Hours of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2 Hrs		

Unit	Contents
1	<p>Operators, Conditional Structures, Control Structures, Loops.</p> <p><b>Strings:</b> Creating, initializing and accessing the elements; string operators: +, *, in, not in, range slice [n:m]; comparing strings using relational operators; String functions &amp; methods: len, capitalize, find, isalnum, isalpha, isdigit, lower, islower, isupper, upper, lstrip, rstrip, isspace, istitle, partition, replace, join, split, count, decode, encode, swapcase, String constants,</p> <p><b>Lists:</b> Concept of mutable lists, creating, initializing and accessing the elements, traversing, appending, updating and deleting elements, composition, lists as arguments</p> <p><b>List operations:</b> joining, slicing, +, *, in, not in</p> <p><b>List functions and methods:</b> len( ), insert( ), append( ), extend( ), sort( ), remove( ), reverse( ), pop( ), list( ), count( ), extend( ), index( ), cmp( ), max( ), min( )</p>
2.	<p><b>Dictionaries:</b> Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, traversing, appending updating and deleting elements</p> <p><b>Dictionary Functions and methods:</b> cmp( ), len( ), clear( ), get( ), has_key( ), items( ), key( ), update( ), values( ), pop( ), fromkeys( ), dict( )</p> <p><b>Tuples:</b> Immutable concept, creating, initializing and accessing elements in a tuple, Tuple assignment, Tuple slices, Tuple indexing,</p> <p><b>Tuple Functions:</b> cmp(), len(), max(), min(), tuple(), index(), count(), sum(), any(), all(), sorted(), reversed()</p> <p><b>Regular Expressions and Pattern Matching using re Module.</b></p>
	<p>Sample Programs:</p> <p>Understanding IDLE: Installing, Running Programs, Saving and Loading Files</p> <p>Understanding Python Operators.</p> <p>Understanding Branching.</p> <p>Understanding Looping.</p> <p>Understanding Functions and Parameters.</p> <p>Understanding Tuples, Lists, Dictionaries.</p> <p>Understanding Mutability of various objects.</p> <p>Understanding Recursion.</p>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: II

<b>Course Code:</b>	BCADSC202	<b>Course Title:</b>	Web Programming using PHP
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2 Hrs		

Unit	Contents
1	<p>Introduction to PHP                      Basic Knowledge of websites, Introduction of Dynamic Website, Introduction to PHP, Why and Scope of PHP, XAMPP and WAMP Installation                      PHP Functions                      Creating an Array, Modifying Array Elements ,Processing Arrays with Loops ,Grouping Form Selections with Arrays ,Using Array Functions ,Using Predefined PHP Functions ,Creating User-Defined Functions                      PHP Programming Basics                      Syntax of PHP ,Embedding PHP in HTML ,Embedding HTML in PHP ,Introduction to PHP Variable ,Understanding Data Types ,Using Operators ,Using Conditional Statements ,If(), else if() and else if condition Statement ,Switch() Statements ,Using the while() Loop ,Using the for() Loop</p>
2.	<p>PHP Advanced Concepts: Managing Sessions and Using Session Variables ,Destroying a Session ,Storing Data in Cookies ,Setting Cookies, Dealing with Dates and Times.                      Baics of MySQL, Database connectivity in PHP.</p>
	<p><b>Reference Books</b></p> <ol style="list-style-type: none"> <li>1. Beginning php</li> <li>2. Php Bible</li> </ol> <p><b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b></p>

## BCA - Semester: II

<b>Course Code:</b>	BCADSC202 P	<b>Course Title:</b>	Lab: Web Programming using PHP
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2 Hrs		

Unit	Contents
1	<p>Introduction to PHP                      PHP Functions                      Creating an Array, Modifying Array Elements ,Processing Arrays with Loops ,Grouping Form Selections with Arrays ,Using Array Functions ,Using Predefined PHP Functions ,Creating User-Defined Functions                      PHP Programming Basics                      Syntax of PHP ,Embedding PHP in HTML ,Embedding HTML in PHP ,Introduction to PHP Variable ,Understanding Data Types ,Using Operators ,Using Conditional Statements ,If(), else if() and else if condition Statement ,Switch() Statements ,Using the while() Loop ,Using the for() Loop.</p>
2.	<p>PHP Advanced Concepts: Managing Sessions and Using Session Variables ,Destroying a Session ,Storing Data in Cookies ,Setting Cookies, Dealing with Dates and Times.                      Baics of MySQL, Database connectivity in PHP using functions. implementation of CRUD operations using PHP.</p>
	<p><b>Sample Programs:</b></p> <ol style="list-style-type: none"> <li>1. Write a PHP program to display “Hello World” Message on Screen.</li> <li>2. Write a PHP program to display the today’s date and current time.</li> <li>3. Write a PHP program to read the employee detail using form component.</li> <li>4. Write a PHP program to display the Fibonacci series.</li> <li>5. Write a PHP program to calculate sum of given number.</li> <li>6. Write a PHP Program that will use the concept form.</li> <li>7. Write a PHP program to send Mail from PHP Script.</li> <li>8. Write a PHP Program for Create, Delete, and Copying file from PHP Script.</li> <li>9. Write a PHP Program to Recursive Traversals of Directory.</li> <li>10. Write a PHP Program to Validate Input Data.</li> <li>11. Write a PHP Program to Upload File.</li> <li>12. Write a PHP program to demonstrate the use of array.</li> <li>13. Write a PHP program to prepare student Mark sheet.</li> <li>14. Write a PHP program to generate the multiplication of matrix.</li> <li>15. Write a PHP program to perform demonstrate the college Website.</li> <li>16. Write a PHP program to add new rows in a Table.</li> <li>17. Write a PHP program to modify the rows in a Table.</li> <li>18. Write a PHP program to delete the rows in a Table.</li> <li>19. Write a PHP program to fetch rows in a Table.</li> <li>20. Develop an PHP application to make following Operation                         <ol style="list-style-type: none"> <li>i. Registration of user.</li> </ol> </li> </ol>

	ii. Insert the details of user. iii. Modify the details. iv. Transaction Maintained like the use of session and cookies variable.
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>

## BCA - Semester: II

<b>Course Code:</b>	BCADSE201A	<b>Course Title:</b>	Discrete Mathematics
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2.30Hrs		

Unit	Contents
1	Connectives Introduction Statements, Connectives, Negation, Conjunction, Disjunction, Conditional and Bi-conditional, Equivalence of formulae and well-formed formulae, Two state devices, Gate and module, Two level networks, NOR and NAND gates
2	Counting- Permutations, Combinations, The Pigeonhole Principle, Recurrences Relations. Relations and Digraphs- Product Sets and Partitions, Relations and Digraphs, Paths in Relations and Digraphs, Properties of Relations, Equivalence Relations, Manipulation of Relations, Transitive Closure and Wars Hall's Algorithm. Functions- Definition and Introduction Function for Computer Science, Permutation Functions
3	Graph Theory- Basic Concept of Graph Theory, Euler Paths and Circuits, Hamiltonian Paths and Circuits. Other Relations and Structure- Partially Ordered Sets, Lattices, Finite Boolean Algebras, Functions of Boolean Algebras, Boolean Functions As Boolean Polynomials. Trees- Introduction, Undirected Trees, Minimal Spanning Trees
4	Semi Group and Groups- Binary Operations Revisited Semi Groups, Products and Quotients of Semi Groups, Groups, Products and Quotients of Groups. Introduction to Computability Theory- Languages, Finite-State Machines, Semi Groups, Machines and Languages
	<b>Text Books</b> 1) J.P. Tremblay and R. Manohar, "Discrete Mathematical Structure with Applications to Computer Science", TMH, ISBN- 0-07-463113-6 2) Bernard Kolman, Robert C. Busby and Sharon Ross, "Discrete Mathematical Structure", PHI, ISBN- 978-81-203-3689-6 References: 1) E. Goodaire , "Discrete Mathematics with Graph theory", PHI,. ISBN--10: 0131679953 2) J. K. Sharma, "Discrete Mathematics", McMillan, ISBN-9780230322301
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>



## BCA - Semester: II

<b>Course Code:</b>	BCADSE201B	<b>Course Title:</b>	Management Information Systems
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	2 Hrs
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50
<b>Exam Duration</b>	2Hrs		

Unit	Contents
1	<b>Information Systems – Introduction and Types</b> Introduction to information Systems – introduction and types Office automation systems Transaction processing systems Management information systems Decision support systems Executive information systems Expert systems
2	<b>Management Information Systems</b> Management Information Systems (MIS) – Importance and Evolution Logical foundations of MIS, Typical MIS Information and managerial effectiveness Business information systems Business functions and information needs of business Pitfalls in MIS System
3	<b>Information Systems Environment</b> Systems theory Classic view of organization Transitional views Modern organization theory Major organizational considerations Managerial roles Decision making models Role of information systems in decision The impact of computers on organizations and individuals
4	<b>Information Systems and Managerial Process</b> Managerial decision making Decision making environment Planning and Security for IT infrastructure Portfolio approach and identifying its proposals Evaluating IT investments and information systems
	<b>Text and Reference Books:</b> <ol style="list-style-type: none"> <li>1. Muneesh kumar: Business Information Systems - Vikas Publishing</li> <li>2. E Turban: Management Information Systems and Decision Support Systems – Tata McGraw Hill</li> <li>3. Sadagopan: Management Information Systems - Narosa Publications.</li> </ol>
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>



<b>BCA - Semester: II</b>			
<b>Course Code:</b>	BCAMD201A	<b>Course Title:</b>	Fundamentals of Accounting
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

<b>Module No.</b>	<b>Modules/SubModules</b>
<b>1</b>	<p>A) FUNDAMENTALS OF ACCOUNTANCY:  Meaning, Scope and Utility of Accounts, Methods of keeping Books of Accounts, Difference between Book keeping and Accountancy, Users of Accounts, fundamental Accounting Equation, Types of Accounts, Rules of Debit and Credit, Types of Transactions, Types of Assets and Liabilities.</p> <p>B) CAPITAL, REVENUE, DEFERRED REVENUE EXPENSES, RESERVES,  PROVISIONS AND CONTINGENT LIABILITY: Meaning and difference between Capital and Revenue Incomes and Expenses, Identification of Capital and Revenue Expenses and Incomes, Meaning of Deferred Revenue Expense, Difference between Reserves and Provisions, meaning of Contingent Liability.</p> <p>C) ACCOUNTING CONCEPTS, CONVENTIONS  PRINCIPLES: Accounting Principles, Policies, Concepts and Conventions. Generally Accepted Accounting Principles, Identification of different Accounting concept applied in various transactions, its accounting entries and its presentation in Annual Financial Statement</p>
<b>2</b>	<p>FINAL ACCOUNTS OF SOLE PROPRIETARY CONCERN:  Preparation of Final account of sole Trading with maximum seven adjustment (In horizontal format)</p>
<b>3</b>	<p>ACCOUNTING FOR NON TRADING CONCERNS:  Meaning of Non Trading Concern, Annual Financial Statements of Non Trading Concerns (NTC), How NTC differs from Trading Concern, Identification of Capital and Revenue Items for non trading organizations, Receipts and Payments Account, Income and Expenditure Account, Balance Sheet, Concept of different funds and their accounting treatment. (Practical Examples of Clubs &amp; Hospitals)</p>
<b>4</b>	<p>Joint ventures (Excluding conversion of consignment into joint ventures)</p>
	<p>Recommended Text Books &amp; Suggested reference Books:  1. Accounting for Managers – J. Made Gowda – Himalaya Publishing House  2. Introduction to Accountancy – T. S. Grewal &amp; S. C. Gupta – S. Chand – 8th Edition</p>

	<p>3. Modern Accountancy - Hanif Mukerji – TMH 4. Financial Accounting by Dr. Kaustubh Sontake – 1st Edition – Himalaya Publishing House 5. Grewal's Accounting : M.P. Gupta &amp; B. M. Agrwal. S. Chand &amp; Company Ltd</p>
	<p><b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b></p>

## BCA - Semester: II

<b>Course Code:</b>	BCAMD201B	<b>Course Title:</b>	Spoken English - I
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	4 Hrs
<b>Internal Assessment Marks:</b>	50	<b>External Exam Marks:</b>	50
<b>Exam Duration</b>	<b>2.30Hrs</b>		

UNIT 1	Introduction to Phonetics Vowels, Consonants, Diphthongs Stress and Syllable Organs of Speech
UNIT 2	Practical Assignments <ol style="list-style-type: none"> <li>1. Role play</li> <li>2. Poetry recitation</li> <li>3. Movie/ Book/Drama Reviews</li> <li>4. Writing a paragraph</li> </ol>
UNIT 3	Professional Communication Skills <ol style="list-style-type: none"> <li>1. Manners and etiquettes</li> <li>2. Developing presentation skill</li> <li>3. Interviews</li> <li>4. Public speaking</li> <li>5. Preparing and Organizing Speech</li> </ol>
UNIT 4	Cross Cultural Communication <ul style="list-style-type: none"> <li>• Dealing with language differences</li> <li>• Probing Questions to get information</li> <li>• Etiquettes for cross cultural communication</li> </ul>

Suggested Reading:

MD201	Spoken English – II (Advance level)
V & S Publishers	Spoken English
G. R. Pillai, K. Rajeevan	Spoken English for You
G. R. Pillai	Spoken English for You (Level 2)
Dharmendra Sheth	English Language Workbooks for All (ELWA) Spoken English (A Set of 3 Books)

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

## BCA - Semester: II

<b>Course Code:</b>	BCAAE-201A	<b>Course Title:</b>	English
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2Hrs</b>		

<b>UNIT No.</b>	<b>Particulars</b>	<b>NO. OF Lectures</b>
<b>I</b>	<b>TEXT</b> 1. Deshara Parmeshara (folktale) – Dr. Kashmir Mehta, Dr. Dimple Chudasama 2. Madam Anjana Hazari: An Oasis in education – Dr. Divya Maheshwari 3. Prof. K.T. Shah – Dr. Dilip Kataliya 4. The Table Turned – William Wordsworth 5. On Studies – Francis Bacon	15
<b>II</b>	<b>GRAMMAR AND COMPOSITION</b> 1. Tenses 2. Active Passive Voices 3. CV and Application	15
	<b>External Exam Pattern : As per the Table 1.1, 1.2 and 1.3</b>	

## BCA - Semester: II

<b>Course Code:</b>	BCAEC-201B	<b>Course Title:</b>	<b><u>Gujarati (Paper-II)</u></b>
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	2Hrs		

Unit	Particulars	No. of Lectures\ Hours
એકમ-૧	(ક) સંધિ (ખ) કૃદંત (ગ) ક્રિયાવિશેષણ	૧૫
એકમ-૨	(ક) સમાસ (ખ) પ્રત્યય : પુર્વ અને પ્રત્યય	૧૫
	કુલ	૩૦

### પ્રશ્નપત્રનું માળખું

પ્રશ્ન	એકમ	પ્રશ્ન પ્રકાર	ગુણભાર
૧	૧	(ક) સંધિ વિગ્રહ કરો અથવા જોડો (સાત માંથી પાંચ) – ૦૫ માર્ક્સ (ખ) ટૂંકનોંધ પ્રકારનો પ્રશ્ન – ૦૫ માર્ક્સ (અથવા) (ખ) ટૂંકનોંધ પ્રકારનો પ્રશ્ન – ૦૫ માર્ક્સ	૧૦
૨	૨	(ક) સમાસ ઓળખાવો અથવા સમાસની સમજૂતી – ૦૫ માર્ક્સ (ખ) પુર્વ પ્રત્યયનો પ્રશ્ન – ૦૫ માર્ક્સ (અથવા) (ખ) પર પ્રત્યયનો પ્રશ્ન – ૦૫ માર્ક્સ	૧૦
૩	૧ થી ૨	બહુવિકલ્પી પ્રશ્નો અથવા ખાલી જગ્યા પુરૂવી (સાત માંથી પાંચ)	૦૫
		કુલ	૨૫



## BCA - Semester: II

<b>Course Code:</b>	BCAEC-201C	<b>Course Title:</b>	<b><u>HINDI (Paper-II)</u></b>
<b>Course Credits:</b>	02	<b>Hour of Teaching/Week:</b>	02
<b>Internal Assessment Marks:</b>	25	<b>External Exam Marks:</b>	25
<b>Exam Duration</b>	<b>2Hrs</b>		

पाठ्य पुस्तक: गद्य विविधा, सम्पादक- हिंदी अध्ययन समिति, कच्छ विश्वविद्यालय- भुज . प्रकाशक- ज्ञान प्रकाशन, ७/२०२, एल.आई.जी., आवास विकास, नौबस्ता, कानपुर, - २०८०२१ .

पाठ्य-क्रम का उद्देश्य (Course Objective)	<ul style="list-style-type: none"> <li>➤ हिंदी गद्य के अन्य स्वरूप के विषय में जानकारी देना.</li> <li>➤ हिंदी भाषा के व्यावहारिक ज्ञान से अवगत होना.</li> <li>➤ विद्यार्थियों को पत्र लेखन से अवगत करवाना</li> <li>➤ सर्जनात्मक हिंदी से परिचित होना. विशेषत कहावते व मुहावरों से</li> </ul>
पाठ्यक्रम अध्ययन की परिणतियाँ (Course Learning Outcome)	<p>इस पाठ्यक्रम के अध्ययन से –</p> <ul style="list-style-type: none"> <li>➤ छात्र एकांकी, निबंध, व्यंग्य आलेख तथा संस्मरण के विषय में अध्ययन करना सीखेंगे.</li> <li>➤ विद्यार्थी पत्र लेखन (व्यक्तिगत, व्यवसायिक, आवेदन) का उपयोग और महत्त्व समझेंगे।</li> <li>➤ छात्र चुनिन्दा हिंदी कहावतों तथा मुहावरों की जानकारी प्राप्त करेंगे.</li> </ul>

❖ पाठ्य-क्रम संरचना :

इकाई क्रम	विषय-वस्तु
१	<ul style="list-style-type: none"> <li>➤ महाभारत की एक सांझ (एकांकी)- भारतभूषण अग्रवाल</li> <li>➤ शिवजी की बरात (निबंध)- विद्यानिवास मिश्र</li> <li>➤ अपनी अपनी हैसियत (व्यंग्य आलेख)- हरिशंकर परसाई</li> <li>➤ मुक्तिबोध के जीवन के अंतिम वर्ष (संस्मरण)- शरद कोठारी</li> </ul>
२	<ul style="list-style-type: none"> <li>➤ पत्र लेखन के प्रकार एवं स्वरूप</li> <li>➤ व्यक्तिगत, आवेदन, व्यवसायिक</li> <li>➤ हिंदी मुहावरे</li> <li>➤ हिंदी कहावतें</li> </ul>

➤ हिंदी मुहावरे-

1. आंख का तारा होना- बहुत प्यारा होना
2. खून का प्यासा होना - जानी दुश्मन हो ना
3. खून ठंडा होना- उत्साह से रहित होना या भाई भी तो होना
4. गढ़ फतह करना- कठिन काम करना
5. गधे को बाप बनाना- काम निकालने के लिए मूर्ख की खुशामद करना
6. घर-घाट एक करना- कठिन परिश्रम करना
7. दिन गवाना- समय नष्ट करना

8. पासा पलटना - स्थिति उलट जाना
9. पीछा छुड़ाना- जान छुड़ाना
10. आग बबूला होना - अत्यंत क्रोधित होना
11. धरना देना - अड़कर बैठना
12. दीवारों के कान होना - किसी गोपनीय बात के प्रकट हो जाने का खतरा
13. थक कर चूर होना - बहुत थक जाना
14. तिनके का सहारा - थोड़ी सी मदद
15. डंका बजाना - प्रभाव जमाना
16. टांग अड़ाना - अड़चन डालना
17. जूते पड़ना- बहुत निंदा होना/ बहुत अपमानित होना
18. छोटा मुंह बड़ी बात- हैसियत से अधिक बात करना
19. जख्मों पर नमक छिड़कना- दुखी या परेशान को और ज्यादा परेशान करना
20. टक्कर खाना - बराबरी करना
21. ठिकाने लगाना - मार डालना
22. डंके की चोट पर कहना - खुलकर कहना
23. दिल बाग-बाग होना - अत्यधिक हर्ष होना
24. धब्बा लगाना - कलंकित होना
25. चार चांद लगाना- शोभा बढ़ाना

➤ हिंदी कहावतें-

- |                                     |   |
|-------------------------------------|---|
| 1. अधजल गगरी छलकत जाए-              | थोड़ी जानकारी वाला, बढ़ चढ़कर बोलता है          |
| 2. घर की मुर्गी दाल बराबर-          | अपने पास की चीज का महत्व नहीं होता              |
| 3. चोर चोर मौसेरे भाई -             | बुरे आदमियों का परस्पर संबंध हो जाता है         |
| 4. डूबते को तिनके का सहारा-         | असहाय को थोड़ा भी सहारा काफी होता है            |
| 5. एक पंथ दो काज-                   | एक बार में दो काम होना                          |
| 6. अकेला चना भाड़ नहीं फोड़ सकता-   | अकेला आदमी कोई बड़ा काम नहीं कर सकता            |
| 7. आंख का अंधा गांठ का पूरा-        | मूर्ख व्यक्ति धनवान होना                        |
| 8. जिसकी लाठी उसकी भैंस-            | बलवानो का बोलबाला                               |
| 9. काला अक्षर भैंस बराबर-           | अनपढ़ होना                                      |
| 10. एक और एक ग्यारह होते हैं-       | एकता में बहुत शक्ति होती है                     |
| 11. अपने पैरों पर कुल्हाड़ी मारना-  | अपना ही नुकसान स्वयं करना                       |
| 12. गिरगिट की तरह रंग बदलना-        | अपना व्यवहार बदलते रहना                         |
| 13. जैसी करनी वैसी भरनी-            | कार्य के अनुसार परिणाम मिलना                    |
| 14. सौ सुनार की एक लोहार की-        | बलवान का एक प्रयास ही काफी है                   |
| 15. आंखों का पानी ढलना-             | बेशर्म होना                                     |
| 16. अंगारों पर पैर रखना-            | जोखिम लेना                                      |
| 17. गुड होगा तो मक्खियां भी आएंगी-  | यदि धन होगा तो मुफ्त में खाने वाले भी पास आएंगे |
| 18. सो सयाने एक मत-                 | बुद्धिमान लोग एकमत होकर काम करते हैं            |
| 19. अपनी नींद सोना अपनी नींद जागना- | स्वतंत्र होना                                   |

External Exam Pattern : As per the Table 1.1, 1.2 and 1.3

BCA Semester – II			
Course Code:	BCAEC-201D	Course Title:	SANSKRIT
Course Credits:	02	Hour of Teaching/Week:	02
Internal Assessment Marks:	25	External Exam Marks:	25
Exam Duration	2 Hrs		

UNIT 1	कथासाहित्यम् उद्भवः, विकासः भारतीय पशुकथा परंपरा कवि परिचयः
UNIT 2	१. चित्रग्रीव कपोत : कथा २. कर्पूर तिलक :हस्ती कथा ३. व्याघ्रः लुब्धब्राह्मणस्य च कथा ४. शृगालः, मृगः काकः च कथा ५. जरद्गव गृध्रः दीर्घकर्णः बिडालः च ।

भाषार ग्रंथोः द्वितोपदेश-मित्रलाल - डॉ. शान्तिकुमार पंडया, डॉ.प्रयेता पंडया, पार्श्वप्रकाशन, अमदावाढ  
द्वितोपदेश-मित्रलाल -प्रा.सुरेश ज. दवे-सरस्वती पुस्तक भंडार, अमदावाढ

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAEC-201 E</b>	<b>Course Title:</b>	<b>Presentation &amp; Soft Skills</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

Course Contents:

<b>Module No.</b>	<b>Modules/SubModules</b>
<b>1</b>	<b>Introduction to Soft Skills:</b> Definition of Soft Skills; Importance of Soft skills; Difference between Soft and Hard skills; Use of soft skills in Workforce: Leadership, Teamwork, Communication, Problem Solving, Work Ethic, Adaptability, Interpersonal Skills.
<b>2</b>	<b>Presentation Strategies:</b> Defining the purpose and importance of Presentation; Structuring the Presentation; Secrets of a Good Presentation; Presentation Tips based on different target audience; Verbal and Non Verbal Cues; Types of Evidences used in Presentation. <b>Public Speaking:</b> Introduction to Public speaking and its importance, Common fears of Public speaking; barrier to public speaking, Overcoming fear of public speaking; Building Confidence in Public speaking; Public speaking tips.

**Topics for Assignments:** Study on all important topics involved. Practice learning for Mentioned topics with the use of audiovisual aids.

Suggested Topics for Seminar: **Business Applications of the course contents.**

Recommended Text Books & Suggested reference Books:

- Student Learner's Dictionary (Oxford)
- Business communications by Neeru Vashishth, Namita Rajput
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**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCASE-201</b>	<b>Course Title:</b>	MS Office Tools Practical
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

<b>1.</b>	<p>Office Packages</p> <p>Documentation Software (Microsoft Word)</p> <p>Create, edit, save, print , navigating documents, different views, formatting, cut-copy paste, find and replace, word wrap, alignment, tabs, inserting- tables-hyperlink pictures-charts- AutoText-header-footer-footnote- endnote- comments-bookmark, Autocorrect, spell checking, thesaurus, protecting a document, mail merge, macros.</p> <p>Presentation Software (Microsoft PowerPoint)</p> <p>Creating , browsing &amp; saving Presentation; Editing &amp; formatting slides; Linking multiple slides using hyperlinks and advance buttons; Using slide layouts ; Adding notes to the slides ; Editing and formatting slides ; Working with slide masters ; Inserting objects on the slide ; Animating objects ; Slide transitions ; Choosing preset animations ; Triggering animations ; Applying sound effects to animation effects ; Playing videos ; Rehearsing timings ; Slide show ; Slide show options(using pen pointer, highlighter); Pack &amp; go ; Custom Show</p>
<b>2.</b>	<p>Spreadsheet Software (Microsoft Excel)</p> <p>Concept of workbook-worksheet-workspace, Cell, Range, Types of data, formatting, Conditional formatting, Fill series, Entering formula, Absolute-Relative-Mixed addressing, cut-copy-paste-paste special, Hyperlink, Functions: SUM, COUNT, MIN, MAX AVERAGE, TODAY, NOW, IF, SUMIF, COUNTIF, UPPER, LOWER, ROUND, VLOOKUP, HLOOKUP, DAYS360, Creating Charts, Protecting and hiding data, AutoFilter, Subtotal, What-if Analysis: Goal Seek-Scenario, import-export of data.</p>

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAVAC-201A</b>	<b>Course Title:</b>	<b>Human Values and Professional Ethics</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

<b>Module No.</b>	<b>Modules/SubModules</b>
<b>1</b>	<p><b>Introduction to business ethics and Moral values</b>  Meaning, Nature of business ethics, Importance of business ethics, Factors influencing business ethics, Arguments for and against business ethics  Values: Meaning, Types of values, Employer and employee's responsibilities, Profit maximization vs. Social responsibility.</p>
<b>2</b>	<p><b>Organisational Ethics</b>  Introduction, Ethical Corporate Behaviour, Development of Ethical Corporate Behaviour, Ethical Leadership, Ethical Decision Making, Ethical Dilemmas in Organisation.</p> <p><b>Workplace Ethics</b>  Introduction, Factors Influencing Ethical Behavior at ssWork Ethical Issue: Business Relationships, Conflicts of Interest, Fairness and Honesty, Communications, Discrimination, Harassment, Importance of Ethical Behavior at Workplace.</p>

**Recommended Text Books & Suggested Reference Books:**

- "Business Ethics": A.C. Fernando. Person.
- Principles of Management: T. Ramasamy. Himalaya Publishing House.
- "Business Laws, Ethics and Communication" Vol. I, The Institute of Chartered Accountants of India, New Delhi.
- S.K. Chakraborty: Values and Ethics in Organisation, UP
- Kitson Alan – Ethical Organisation, Palgrave
- L.T. Hosmer: The ethics of Management, Universal Book

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAVAC-201B</b>	<b>Course Title:</b>	<b>NCC</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

### **Course Content Part (I) Theory**

#### **Unit 1. Personality Development (Contact Hrs. 5)**

- (i) Thinking-Meaning and Concept of thinking, Reasoning, Process of thinking.
- (ii) Critical Thinking-  
Meaning & concept of critical thinking, Features of critical thinking, Process of critical thinking.
- (iii) Creative thinking-  
Meaning & concept of creative thinking, Features of creative thinking, Process of creative thinking, level of Creativity, Characteristics of creative person.

#### **Unit 2. Leadership Development (Contact Hrs. 4)**

- (i) Leadership capsule.
- (ii) Important Leadership traits, Indicator of leadership and evaluation.
- (iii) Motivation-Meaning & concept, Types of motivation. Factors affecting motivation.
- (iv) Ethics and Honor codes.

#### **Unit 3. Social Service and Community Development (Contact Hrs. 4)**

- (i) Protection of Children & Women Safety.
- (ii) Road/Rail Safety.
- (iii) New Government Initiatives.

(iv) Cyber and mobile Security Awareness.

#### **Unit 4**

**.Border & Coastal Areas (Contact Hrs.2).** Security Setup and

Border/Coastal management in the area **Course Content**

#### **Part (II) Practicals**

##### **Unit 1. Drill (Contact Hrs.15)**

- i. Foot Drill Dahine, Baen, Aageaur Piche Kadam Lena.
- ii. Tej Chalse Murdna, Tej Chalse Salute Karna, Tej Kadam Taalaur Tham, Tej Kadam Taalse Kadam Badalna
- iii. Teeno Teense Ek Fileaurek filese Teeno Teen Banana

##### **Unit 2. Weapon Training (Contact Hrs.08)**

- i. Range procedure & Theory of group.
- ii. Short Range firing.

##### **Unit 3. Map Reading (Contact Hrs.07)**

- i. Protractor Bearing and its conversion methods.
- ii. Service protractor and its uses.
- iii. Prismatic compass and its uses and GPS.
- iv. Navigation by compass and GPS.

##### **Unit 4. Field Craft & Battle Craft (Contact Hrs.04)**

- i. Indications of landmarks and Targets.
- ii. Intro, Definitions, Types of Ground, Indication of Landmarks, Methods of identification of targets, difficult targets.

##### **Unit 5. Social Service and Community Development (Contact Hrs.06)**

Cadets will participate in various activities throughout the semester e.g., Blood donation Camp, Swachhata Abhiyan, Constitution Day, Jan Jeevan Hariyali Abhiyan, Beti Bachao Beti Padhao etc. as per the requirement and similar announced days - National and state level.

##### **Unit 6. Health & Hygiene (Contact Hrs.10)**



- i. Yoga-Introduction,Definition,Purpose,Benefits.
- ii. Asanas-  
Padamsana,Siddhasana,GyanMudra,SuryaNamaskar,Shavasana,Vajrasana,Dhanurasana,Chakrasana,Halasana etc

### **Unit7.ObstacleTraining(ContactHrs.10)**

- (i) Obstacletraining–Intro,Safetymeasures,Benefits.
- (ii) ObstacleCourse-Straightbalance,ClearJump,GateVault,Zig-ZagBalance,HighWalletc.

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAVAC-201C</b>	<b>Course Title:</b>	<b>Youth, Leadership and Nation Building (NSS)</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

**Unit-II** Importance and role of youth leadership

Meaning and types of leadership, Qualities of good leader, Trait of good Leadership.

Importance and role of youth leadership, Ideals of Swami Vivekananda and Youth leadership

Lifeskill

Concept and definition of life

skill Problem solving and decision making

**Unit-II** Social harmony and national integration

Need and importance of social harmony and nation building and Role of youth in developing social harmony and nation building, Indian philosophy of social harmony and national development

like Vasudhev Kutumbkam etc Youth development programmes in India Youth development programmes at national, state and community level Like NSS, NCC, NYK, Scout guide, etc.

**Text & Reference:**

1- NSS Manual

2- [www.ministryofsportsandyouthaffairsgovernmentofindia](http://www.ministryofsportsandyouthaffairsgovernmentofindia)

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAVAC-201D</b>	<b>Course Title:</b>	<b>Yoga- Nityansh</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

Unit 1	Study of patanjali yoga sutras. (pad -2.29 to 55,pad-3.1 to 8) Ashtanga yoga in patanjaliyogasutras. Yama,niyama,asana,pranayama,pratyahara,dharana,dhyana& samadhi.
Unit 2	Surya namaskara. (tadasana, vrikshasana, padmasana,vajrasana,shashankasana, paschimottanasana, vakrasana, shavasana.) Shatkarma. Mudra & bandha. Concept of purakarechaka and kumbhaka. Nadi shodhana.

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCAVAC-201E</b>	<b>Course Title:</b>	Try to Understand our Mother Earth
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

Unit 1	Introduction To Environment Science	<ul style="list-style-type: none"> <li>- Introduction to Environment Science: Definition, Scope &amp; Carrier, Approaches, Relation to other branches of Science.</li> <li>- Past, Present &amp; Future Scenario, Various fields of Environment Science.</li> <li>- Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere.</li> <li>- Meteorological parameters - pressure, temperature, precipitation, humidity, radiation. Laws of thermodynamics &amp; Heat transfer processes. Environmental education and awareness. Environmental ethics.</li> </ul>
	Unit 2: Atmosphere, Hydrosphere and Lithosphere	<p>Atmosphere: Composition, structure and functions of atmosphere, atmospheric chemistry, classification of elements, earth's energy budget, reactions in the lower and upper atmosphere, radioactivity in the atmosphere, atmospheric stability, inversions and mixing heights, wind roses</p> <p>Hydrosphere: Structure and properties of water and their environmental significance, distribution of water in earth, fresh water and its chemistry, solubility of gases in water, role of water in environment</p> <p>Lithosphere: Factors and processes of soil development, soil types and their formation, soil profiles, physical and chemical properties</p>

**Reference Materials:**

1. Environmental Science by S C Santra
2. Environmental Science by D D Chiras
3. Text Book for Environmental Studies by UGC, New Delhi
4. Environmental Chemistry by A K Dey
5. Fundamental of Ecology by E P Odum
6. Ecology and Environment by P D Sharma

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

<b>BCA - Semester: II</b>			
<b>Course Code:</b>	<b>BCASE-201F</b>	<b>Course Title:</b>	<b>Integrated Personality Development Course-1</b>
<b>Course Credits:</b>	<b>02</b>	<b>Hour of Teaching/Week:</b>	<b>02</b>
<b>Internal Assessment Marks:</b>	<b>25</b>	<b>External Exam Marks:</b>	<b>25</b>
<b>Exam Duration</b>	<b>2 Hrs</b>		

Introduction	The Need for Values	Students will learn about the need for values as part of their holistic development to become successful in their many roles - as ambitious students, reliable employees, caring family members, and considerate citizens.
UNIT-1	Module: Remaking Yourself Subject : Restructuring Yourself	Students learn how self-improvement enables them to secure a bright future for themselves. They will learn 6 powerful thought-processes that can develop their intellectual, physical, emotional, and spiritual quotients.
UNIT-2	Module: Remaking Yourself Subject : Power of Habit	Students will undergo a study of how habits work, the habits of successful professionals, and the practical techniques that can be used to develop good habits in their life.
UNIT-3	Module: Learning from Legends Subject : Tendulkar & Tata	Students will learn from the inspirational lives of India's two legends, Sachin Tendulkar and Ratan Tata. They will implement these lessons through relatable case studies.
UNIT-4	Module: From House to Home Subject : Listening & Understanding	Active listening is an essential part of academic progress and communications. Students will learn to listen with their eyes, ears, mind, and heart.

UNIT-5	Module: Facing Failures Subject : Welcoming Challenges	This lecture enables students to revisit the way in which they approach challenges. Through the study of successful figures such as Disney, Lincoln and Bachchan, students will learn to face difficulties through a positive perspective.
UNIT-6	Module: Facing Failures Subject : Significance of Failures	Failure is a student's daily source of fear, negativity, and depression. Students will be given the constructive skills to understand failure as formative learning experiences.
UNIT-7	Module: My India My Pride Subject :	India's ancient Rishis, scholars, and intellectuals have made tremendous contributions to the world, they developed an advanced, sophisticated culture and civilization which began
	Glorious Past - Part 1	thousands of years ago. Students will learn the importance of studying India's glorious past so that they could develop a strong passion and pride for our nation.
UNIT-8	Module: My India My Pride Subject : Glorious Past - Part 2	Our ancient concepts can be used to seek revolutionary ideas and to generate inspiration. Students will develop a deeper interest in India's Glorious Past – by appreciating the need to read about it, research it, write about it, and share it.
UNIT-9	Module: Learning from Legends Subject : A.P.J. Abdul Kalam	Dr Kalam's inspirational life displayed legendary qualities which apply to students (1) Dare to Dream (2) Work Hard (3) Get Good Guidance (4) Humility (5) Use Your Talents for the Benefit of Others
UNIT-10	Module: Soft Skills Subject : Networking & Leadership	Students are taught the means of building a professional network and developing a leadership attitude.
UNIT-11	Module: Soft Skills Subject : Project Management	Students will learn the secrets of project management through the Akshardham case study. They will then practice these skills through an activity relevant to student life.
UNIT-12	Module: Remaking Yourself Subject : Handling Social Media	Students will learn how social media can become addictive and they will imbibe simple methods to take back control.
UNIT-13	Module: Facing Failures Subject : Power of Faith	Students will learn about the power and necessity of faith in our daily lives.

UNIT-14	Module: From House to Home Subject : Bonding the Family	Students will understand the importance of strong family relationships. They will learn how to overcome the generation gap and connect with their family more.
UNIT-15	Module: Selfless Service Subject : Seva	Students will learn that performing seva is beneficial to one's health, wellbeing, and happiness. It also benefits and inspires others.

**External Exam Pattern : As per the Table 1.1, 1.2 and 1.3**

## BCA - Semester: II

(Effective from year 2023-24)

<b>Course Code:</b>	CAITEX-001	<b>Course Title:</b>	Summer Internship and Viva
<b>Course Credits:</b>	04	<b>Hour of Teaching/Week:</b>	-
<b>Internal Assessment Marks:</b>	-	<b>External Exam Marks:</b>	100
<b>Exam Duration</b>	2.5 Hrs		

- Summer Internship shall be of 60 Hours.
- This course shall be application for those students who wish to exit from the course and wants avail certificate after successful completion of one year
- Summer Internship can be Online, subject to the approval from the authority in special case.
- At the end of the Internship students has to submit a project report and face a viva to avail a certificate.
- In special circumstances, if any students fail to get a suitable summer internship then he/she should be allowed to perform in-house project, subject to approval from the authority.