॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड
"ज्ञानतीर्थ" परिसर, विष्णुपुरी, नांदेड - ४३१६०६ (महाराष्ट्र)

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY NANDED
"Dnyanteerth", Vishnupuri, Nanded - 431606 Maharashtra State (INDIA)
Established on 17th September 1994 – Recognized by the UGC U/s 2(f) and 12(B), NAAC Re-accredited with 'A' Grade

25
1994 - 2019
SILVER JUBILEE YEAR

ACADEMIC (1-BOARD OF STUDIES) SECTION

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संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे **CBCS Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, **दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मा. विद्या परिषद बैठकीतील ऐनवेळचा विषय क्र.११/४४–२०१९** च्या ठरावानुसार प्रस्तुत विद्यापीठाच्या **संलग्नित महाविद्यालयांतील विज्ञान व तंत्रज्ञान विद्याशाखेतील पदवी स्तरावरील प्रथम वर्षाचे** खालील विषयांचे **C.B.C.S. (Choice Based Credit System) Pattern** नुसारचे अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechonology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.: शैक्षणिक–०१ / परिपत्रक / पदवी–सीबीसीएस अभ्यासक्रम /
२०१९–२० / २९२
दिनांक : ०३.०७.२०१९.

स्वाक्षरित / –
उपकुलसचिव
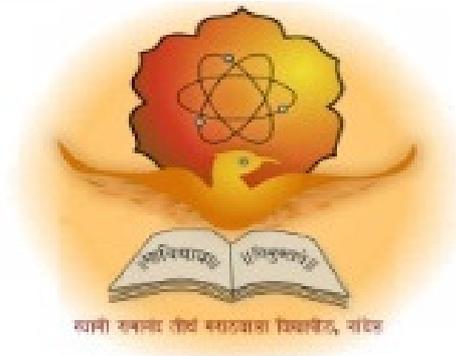शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत माहिती व पुढील कार्यवाहीस्तव :

१) मा. कुलसचिव यांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मूल्यमापन मंडळ यांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) प्राचार्य, सर्व संबंधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) साहाय्यक कुलसचिव, पदव्युत्तर विभाग, प्रस्तुत विद्यापीठ.
५) उपकुलसचिव, पात्रता विभाग, प्रस्तुत विद्यापीठ.
६) सिस्टम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

Swami Ramanand Teerth Marathwada University,Nanded
(NAAC Re-accredited with 'A' Grade)

Syllabus of

Bachelor of Computer Application (3 years)
(Revised CBCS pattern)

Introduced from Academic Year 2019-2020

Bachelor of Computer Application

Bachelor of Computer Application (3years) program / degree is a specialized program in computer applications. It builds the student on studies in applied use of computers and to become competent in the current race and development of new computational sciences. The duration of the study is of six semesters, which is normally completed in three years.

CBCS pattern

The Bachelor of Computer Application program as per CBCS (Choice based credit system) pattern, in which choices are given to the students under open electives and subject electives. The students can choose open electives from the wide range of options to them.

Eligibility and Fees

The eligibility of a candidate to take admission to **Bachelor of Computer Application** program is as per the eligibility criteria fixed by the University. More details on admission procedure and fee structure can be seen from the prospectus of the college / institution as well as on website of the University.

Credit Pattern

Every course has corresponding grades marked in the syllabus structure. There are 24 credits per semester. A total of 144 credits are essential to complete this program successfully. The Grading pattern to evaluate the performance of a student is as per the University rules.

Every semester has a combination of Theory (core or elective) courses and Lab courses. Each theory course has 04 credits which are split as 03 external credits and 01 internal credit. The university shall conduct the end semester examination for 03 external credits. For theory internal credit, student has to appear for 01 class test (15 marks) and 01 assignment (10 marks). Every lab course has 02 credits which are split as 01 external credit and 01 internal credit. For lab internal credit, the student has to submit Laboratory Book (05 marks) and remaining 20 marks are for the Lab activities carried out by the student throughout the semester. For lab external credit, 20 marks are reserved for the examinational experiment and 05 marks are for the oral / viva examinations.

The open elective has 04 credits which are purely internal. If students are opting for MOOCs as open elective , then, there must be a Faculty designed as MOOCs course coordinator who shall supervise learning through MOOCS. This is intentionally needed as the MOOCs course coordinator shall verify the MOOC details including its duration, staring date, ending date, syllabus contents, mode of conduction, infrastructure feasibility, and financial feasibility during start of each semester. This is precautionary as the offering of the MOOCs through online platforms are time specific and there must be proper synchronization of semester duration with the MOOCs duration. Students must opt for either institutional / college level open elective or a course from University recognized MOOCs platforms as open electives.

The number of hours needed for completion of theory and practical courses as well as the passing rules, grading patterns, question paper pattern, number of students in practical batches, etc shall be as per the recommendations, norms, guidelines and policies of the UGC, State Government and the SRTM University currently operational. The course structure is supplemented with split up in units and minimum numbers of hours needed for completion of the course, wherever possible.

Under the CBCS pattern, students would graduate **Bachelor of Computer Application** with a minimum number of required credits which includes compulsory credits from core courses, open electives and program specific elective course. All students have to undergo lab / practical activities leading to specific credits and project development activity as a part of professional UG program.

1. **B.Sc. Computer Application Degree** / program would be of 144 Credits. Total credits per semester= 24
2. Each semester shall consist of three core courses, one elective course, one open elective course and two practical courses. Four theory courses (core+elective) = 16 Credits
3. Two practical / Lab courses= 4 Credits in total (02 credits each) , One Open elective= 4 credit
4. One Credit = 25 marks , Two Credits = 50 Marks, Four Credits = 100 Marks

PEO, PO and CO Mappings

1. **Program Name** : Bachelor of Computer Application

2. **Program Educational Objectives**: After completion of this program, the graduates / students would

PEO I :Technical Expertise	Implement fundamental domain knowledge of core courses for developing effective computing solutions by incorporating creativity and logical reasoning.
PEO II : Successful Career	Deliver professional services with updated technologies in **Computer application** based career.
PEO III :Hands on Technology and Professional experience	Develop leadership skills and incorporate ethics, team work with effective communication & time management in the profession.
PEO IV :Interdisciplinary and Life Long Learning	Undergo higher studies, certifications and research programs as per market needs.

3. **Program Outcome(s):** Students / graduates will be able to

PO1: Apply knowledge of mathematics, science and algorithm in solving Computer problems and applied use of banks.
PO2: Learn various custom software
PO3: Design component, or processes to meet the needs within realistic constraints.
PO4: Identify, formulate, and solve problems using computational temperaments.
PO5: Comprehend professional and ethical responsibility in computing profession.
PO6: Express effective communication skills.
PO7: Recognize the need for interdisciplinary, and an ability to engage in life-long learning.
PO8: Actual hands on technology to understand it's working.
PO9: Knowledge of contemporary issues and emerging developments in computing profession.

PO10: Utilize the techniques, skills and modern tools, for actual development process
PO11: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings in actual development work
PO12: Research insights and conduct research in computing environment.

4. **Course Outcome(s):** Every individual course under this program has course objectives and course outcomes (CO). The course objectives rationally match with program educational objectives. The mapping of PEO, PO and CO is as illustrated below

5. **Mapping of PEO& PO and CO**

Program Educational Objectives	Thrust Area	Program Outcome	Course Outcome
PEO I	Technical Expertise	PO1,PO2,PO3,PO6	All core courses
PEO II	Successful Career	PO4,PO5,PO11,	All discipline specific electives courses
PEO III	Hands on Technology and Professional experience	PO8,PO10	All Lab courses
PEO IV	Interdisciplinary and Life Long Learning	PO7,PO9,PO12	All open electives and discipline specific electives

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED
Choice Based Credit System (CBCS)
SEMESTER PATTERN
Faculty of Science & Technology
Under Graduate (UG) Program
Program: Bachelor of Computer Application w.e.f. AY 2019-2020

Year	Semester	Course category	Course Code	Course Title	Credits * *(split up will be given separately)
First	**First**	Core Course	BCA-101	Fundamentals of Computer Science and Information Technology	04
		Core Course	BCA-102	Office Automation	04
		Core Course	BCA-103	Programming in C	04
		Chose any one from the below Elective courses			
		Elective Subject	BCA-104 A	Element of Statistics	04
			BCA-104 B	Mathematical Technique In Computer Science (MTCS)	
		Chose any one Open Elective courses			
		Open Elective	BCA-105 A	University recognized MOOC (NPTEL / SWAYAM / others) OR Intra / Inter Departmental courses OR	04
			BCA-105 B	Applied English OR Business Communication	
		Lab / Practical	BCA-106	C Programming	02
			BCA-107	Office Automation	02
Total					**24**
First	**Second**	Core Course	BCA-201	Business Accounting With Tally	04
		Core Course	BCA-202	Organizational Behaviour	04
		Core Course	BCA-203	Web Technology	04
		Chose any one from the below Elective courses			
		Elective Subject	BCA-204A	E-Commerce	04
			BCA-204B	Desktop Publishing (DTP)	
		Chose any one Open Elective courses			
		Open Elective	BCA-205A	University recognized MOOC (NPTEL / SWAYAM / others) OR Intra / Inter Departmental courses OR	04
			BCA-205B	Functional English OR Corporate English	
		Lab / Practical	BCA-206	Tally.ERP 9	02
			BCA-207	Web Technology	02
Total					**24**
		For skill enhancement, if any, in all semesters, online course with internal credits is mandatory			

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Fundamentals of Computer Science and Information Technology
Subject Code	BCA-101
Marks	75 Marks
Lectures	50 Lectures

Objectives

Through this paper Student should learn basic principles of computer. The paper is designed to aim at importing basic level of Computer.

Outcome

To learn Basic Function of Devices like I/O, HDD etc. To Understand the Fundamental of Software and Hardware. Understand the Concept of Operating System and Network.

Unit I

1. **Introduction to Computer and History**   **15 Lectures**
    1.1 Definition of Computer
    1.2 Basic Computer Organization
    1.3 Characteristics of Computer
    1.4 Generations of Computer
    1.5 Types of Computer:- Microcomputer, Minicomputer, Mainframe
        Computer, Workstations, Client and Server

Unit II

2. **Computer Peripherals & Memory**   **10 Lectures**
    2.1 Input Devices :- Keyboard, Mouse, Trackball, Joystick, Light pen
    2.2 Output Devices :- Monitor, Printer, Projector, Biometric Devices
    2.3 Computer Memory :- RAM, ROM, Cache Memory

Unit III

3. **Storage Devices and Operating System**   **15 Lectures**
    3.1 Compact Disk, Digital Versatile Disk
    3.2 Hard Disk Drive
    3.3 USB Flash Drive
    3.4 Memory Card
    3.5 Definition of operating System
    3.6 Types of Operating System
    3.7 Disk Operating System
    3.8 Windows Operating System
    3.9 Linux Operating System

Unit IV

4.   **Introduction to Computer Network & Internet**   **10 Lectures**

    4.1 Definition of Network

    4.2 Types of Network :- LAN,MAN,WAN

    4.3 Data Transmission Modes

    4.4 OSI Model

    4.5 E-Mail

    4.6 File Transfer Protocol

    4.7 Web Browser

    4.8 Types of Web Browser

References:-

1 Fundamental of Computer –5th& 6th Edition, P.K.Sinha, BPB Publication

2 Fundamental of Computer - V. Raja Raman, PHI Publication

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Office Automation
Subject Code	BCA-102
Marks	75 Marks
Lectures	50 Lectures

Objectives

The main objective of Office Automation is to enhance and upgrade the existing system by increasing its efficiency and effectiveness. It will simplify the task and reduce the paper work means the software improves the working methods by replacing the existing manual system with the computer-based system.

Outcomes

After completion of this course student will be able to understand the computer software, hardware, made available to simplify and automate a variety of office operations such as data processing, data manipulating and data presentation with various application those are presents in Microsoft office tools packages.

Unit I

1.   Introduction to MS-Word.   **20 Lectures**

   1.1   Word 2010 Basics: - Opening screen of MS-word,
   1.2   Home menu- font tab,
   1.3   Paragraph tab,
   1.4   Styles tab
   1.5   Editing options in MS-Word
   1.6   Insert menu- table tool
   1.7   Header and Footer tool
   1.8   Mail-merge
   1.9   Custom dictionary
   1.10   Printing in MS-Word
   1.11   Creating Index in MS-Word.

Unit II

2.   Working with MS-Excel.   **10 Lectures**

   2.1   Introduction to MS-Excel
   2.2   Formatting cells
   2.3   Formatting columns
   2.4   Row height
   2.5   Merging
   2.6   Splitting columns and connecting the worksheets
   2.7   Working with Formulas and Functions
   2.8   Creating charts
   2.9   Goal seek
   2.10   Data validation
   2.11   Conditional Formatting.

Unit III

3.   Working with Microsoft power point.   **10 Lectures**
        3.1   Opening Screen of MS PowerPoint
        3.2   Creating a new presentation based on template
        3.3   Design template and blank presentation
        3.4   Slide Transition
        3.5   Custom Animation effects
        3.6   Slide show
        3.7   Adding audio and video on slides.

Unit IV

4.   Introduction to MS-Access.   **10 Lectures**
        4.1   Opening screen of MS-Access
        4.2   Advantages and disadvantages of MS-Access
        4.3   Performing Queries
        4.4   Generating the report
        4.5   Creating the database in Access
        4.6   Creating forms and adding new records in MS-Access.

References:-
    1. **MS-DOS 6.22 by Russell A Stultz BPB publication.**

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Programming in C
Subject Code	BCA-103
Marks	75 Marks
Lectures	50 Lectures

Programming in 'C' Objective

It is general purpose and procedure oriented programming language. In which we are able to develop OS and MAC operating system, application software and programming languages. Programming Language are also used to build students logic for programming.

Programming in 'C' Outcomes

To study of structure of programming languages, structure of c program.

To study different keyword for making program.

To develop programs using operators and control statement.

To describe an array, structure, union, string and functions.

Student are able to develop application software.

UNIT I

1. Introduction to Programming in C   **15 Lectures**

1.1 History

1.2 Compilers and Interpreters

1.3 Algorithms

1.4 Flowcharts

1.5 Structure of a C program

1.6 C Tokens

       1.6.1 Keywords

       1.6.2 Variables

       1.6.3 Primary Data types

       1.6.4 Operators

1.7 Formatted I/O Statement

1.8 Unformatted I/O Statement

UNIT II

2. Controlling Statement   **10 Lectures**

2.1 Decision Making Statement

       2.1.1 If Statement

       2.1.2 If- else Statement

       2.1.3 Nested if –else Statement

       2.1.4 Else if Ladder Statement

       2.1.5 Switch Statement

2.2 Loop Statement

        2.2.1 For Loop

        2.2.2 While Loop

        2.2.3 Do-while Loop

        2.2.4 Nested for Loop

2.3 Break, goto and Continue

UNIT III

3.   Function in C   **10 Lectures**

3.1 Functions in C

3.2 What is a function?

3.3 User defined functions

        3.3.1 Declaration

        3.3.2 Definition

        3.3.3 Function calling

3.4 Recursion

UNIT IV

4.   Array and Structure   **15 Lectures**

    4.1   Arrays

    4.2   Array declaration, initialization

    4.3   One dimensional Array

    4.4   Two dimensional Array

    4.5   Standard String library functions

    4.6   Creating structures

    4.7   Accessing structure members (dot Operator)

    4.8   Unions

References:

1. Complete C Reference – Herbert Schildt (Thomson learning publications)

2. The C Programming language – Kernighan and Ritchie

3. Structured Programming approach using C – Forouzan and Gilberg,

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Elective: Element of Statistics
Subject Code	BCA-104 A
Marks	75 Marks
Lectures	50 Lectures

Objective:

Interact ideas of random variable, frequency distribution, calculate and interact various measures in statistics.

Outcomes:

1. Explain the use of data collection & statistics.
2. Recognize, examine & interact the basic principles of describing and presenting data.

UNIT I

1. **Introduction & Collection of Data**   **10 Lectures**
   1.1 Definition of Statistics
   1.2 Importance of Statistics
   1.3 Limitation of Statistics
   1.4 Scope of Statistics (Computer Science, Industry, Economics)
   1.5 Collection of data.

UNIT II

2. **Measures of Central Tendencies & Variations**   **15 Lectures**
   2.1 Concept
   2.2 Mean, formula, ungrouped & grouped data, numerical example, merits & demerits.
   2.3 Mode, formula, ungrouped & grouped data numerical example, merits & demerits.
   2.4 Median, formula, ungrouped & grouped data numerical example merits & demerits.
   2.5 Standard deviation, formula, examples
   2.6 Variance, formula, example.

UNIT III

3. **Correlation & Regression**   **10 Lectures**
   3.1 Correlation, types, scatters diagram.
   3.2 Karl person's coefficient of correlation.
   3.3 Ungrouped data examples.
   3.4 Regression ,regression lines
   3.5 Example.

4. Probability   **15 Lectures**
4.1 Permutation & combination
4.2 Sample space, event.
4.3 Definition of probability
4.4 Theorems of probability
      a. $P(A) = 1 - P(A')$
      b. $O \le P(A) \le 1$
      c. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$
4.5 Numerical example.

Reference Books

1. Foundation of Mathematics statistics – S. C. Gupta & V. K. Kapoor
2. Statistical methods – S. C. Gupta.

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Elective: Mathematical Technique in Computer Science (MTCS)
Subject Code	BCA-104 B
Marks	75 Marks
Lectures	50 Lectures

Objective:

Knowledge, skill & understanding develop understanding & fluency in mathematics through inquiry, exploring & connecting mathematical concept choosing & applying problem – solving skills.

Outcomes:

- Able to use standard mathematical techniques to solve elementary problem.
- Understand the nature of mathematical proof & be able to write clear & concise proof.

UNIT I

1. **Set theory**   **10 Lectures**
    1.1 Definition & types of set
    1.2 Venn diagram
    1.3 Set operation
    1.4 Properties of sets
    1.5 Numerical example

UNIT II

2. **Arithmetical ability**   **10 Lectures**
    2.1 Numbers, Asthmatic progression & Geometric progression
    2.2 Divisibility tests
    2.3 H.C.F.and L.C.M. of numbers
    2.4 Time, Work and distance.

UNIT III

3. **Matrices & determinants**   **15 Lectures**
    3.1 Matric & types
    3.2 Algebra & Matrices
    3.3 Definition of determinants
    3.4 Adjoint of matrix
    3.5 Inverse of matrix

4. **Group theory**   **15 Lectures**

    4.1 Definition & types of groups

    4.2 Degree of vertices

    4.3 Isomorphism graph

    4.4 Connected & disconnected group

    4.5 Walks, paths & circuits

    4.6 Binary tree

Reference Books

1) Discrete mathematics – C. L. Lui
2) Group theory- Nimkar & Solapurkar
3) Quantitative Aptitude - Dr. R. S. Aggarwal

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Open Elective: University recognized MOOC (NPTEL / SWAYAM / others) OR Intra / Inter Departmental courses
Subject Code	BCA-105 A
Marks	75 Marks
Lectures	50 Lectures

OR

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Open Elective: Applied English
Subject Code	BCA-105 B
Marks	75 Marks
Lectures	50 Lectures

Objectives of the Course:
1. To make a comprehensive use of English in day-to-day life.
2. To help Students develop the ability to learn and contribute critically.
3. To develop the writing skills of the students.
4. To help the students to understand the basic usages of English.

Course outcome: By the end of this course students should be able to:
1. Understand and demonstrate Basic English usages for their different purposes.
2. Clear entrance examination and aptitude tests.
3. Write various letters, reports required for professional life.

Unit I	
1. Grammar in use:- 1.1 Word Classes:- Open Close 1.2 Phrase	**15 Lectures**

Unit II	
2. Basic Sentence Elements. 2.1 Phrase 2.2 Classes:- Noun, Adjective, Adverb 2.3 Sentence:- Simple, Compound, Complex	**10 Lectures**

Unit III	
3. Transformation:- 3.1 Voice: Active & Passive. 3.2 Speech: Direct & Indirect	**15 Lectures**

Unit IV	
4. Error Detaching/Spoofing the Crosse in the use 4.1 Determiners: 4.2 Subject – Verb Agreement 4.3 Tense:	**10 Lectures**

References:-
1 Fundamental of Computer –5th& 6th Edition, P.K.Sinha, BPB Publication
2 Fundamental of Computer - V. Raja Raman, PHI Publication

OR

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Open Elective: Business Communication
Subject Code	BCA-105 B
Marks	75 Marks
Lectures	50 Lectures

Objectives of the Course:

5. To make a comprehensive use of English in day-to-day life.
6. To help Students develop the ability to learn and contribute critically.
7. To develop the writing skills of the students.
8. To help the students to understand the basic usages of English.

Course outcome:

By the end of this course students should be able to:

4. Understand and demonstrate Basic English usages for their different purposes.
5. Clear entrance examination and aptitude tests.
6. Write various letters, reports required for professional life.

Unit I	
1. **Basic English Grammar**	**15 Lectures**
1.1 Noun	
1.2 Verb	
1.3 Adjective	
1.4 Adverb	

Unit II	
2. **Transformation of Sentences:**	**10 Lectures**
2.1 Simple to Complex	
2.2 Complex to Compound	

Unit III	
3. **Writing Skills**	**15 Lectures**
3.1 Essay Writing	
3.2 Email Writing	
3.3 Resume	

Unit IV	
4. **Group Discussion**	**10 Lectures**
4.1 Group Discussion:	
4.2 Seminar Conference	
4.3 Meeting	
4.4 Interview	

References:-

1 Fundamental of Computer –5th& 6th Edition, P.K.Sinha, BPB Publication
2 Fundamental of Computer - V. Raja Raman, PHI Publication

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Lab-Course : C Programming
Subject Code	BCA-106
Marks	50 Marks

1) Demonstrate C programming Structure
2) Use of data types
3) Use of control statements
4) Use of looping statements
5) Demonstrate input output statements
6) Use of user define function
7) Demonstrate recursion function
8) Use of array
9) Demonstrate string library function
10) Demonstrate structure

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	Lab-Course : Office Automation
Subject Code	BCA-107
Marks	50 Marks

1) Study of Word Opening screen
2) Study of EXCEL Opening screen
3) Study of PowerPoint Opening screen
4) Study of Access Opening screen
5) Study of Find and Replace Dialog Box in Microsoft Word
6) Study of Page Setup Dialog Box
7) Study of Table Formatting
8) Study of Custom Dictionary & Go to Dialog Box
9) Study of mail merge
10) Study of creating charts.
11) Study of border and shading dialog box
12) Study of paragraph dialog box
13) Working of Formulas in Excel
14) Creating Presentation in Power Point
15) Creating database file in Access

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Business Accounting with Tally
Subject Code	BCA-201
Marks	75 Marks
Lectures	50 Lectures

Objective:

1. To impart basic accounting knowledge
2. To understand the concept, process and importance of financial accounting.
3. To gain knowledge of business accounting
4. To help students to acquaint with application of Tally in the business world.

Outcome:

1. Students will able to do Accounting Using Tally

UNIT I
1. Introduction to Financial Accounting   **10 Lectures**

   1.1   Introduction: Financial Accounting-definition and Scope, objectives of Financial Accounting, Accounting v/s Book Keeping Terms used in accounting, Users of accounting information and limitations of Financial Accounting.

   1.2   Accounting Concepts, Types of Accounts, Accounting Principles or concepts , Mode of Accounting, Rules of Accounting, Double entry system of book keeping

UNIT II
2. Conceptual Frame work   **10 Lectures**

   2.1   Accounting Standards in India-concept, objectives, benefits Accounting Policies

   2.2   Accounting as a measurement discipline, valuation Principles, accounting estimates

UNIT III
3. Recording of transactions   **15 Lectures**

   3.1   Company Creation, Alter, Backup & Restore,

   3.2   Creating book of account, Group, subsidiary Group, Ledgers

   3.3   Voucher system; Accounting Process, Journals, Subsidiary Books, Ledger, Cash Book, Bank Reconciliation Statement, Trial Balance.

   3.4   Depreciation: Meaning, need & importance of depreciation, methods of charging depreciation.(WDV & SLM)

   3.5   Stock Groups : Multiple Stock Groups , Stock Categories , Multiple Stock Categories , Units of Measure , Godowns ,Stock Items

UNIT IV

4. Preparation of final accounts   **15 Lectures**

4.1   Preparation of Trading and Profit & Loss Account and Balance Sheet of sole **proprietary business**

4.2   Introduction to Company Final Accounts: Important provisions of Companies Act, 1956 in respect of preparation of Final Accounts.

4.3   Understanding of final accounts of a Company.

Recommended Books

1) Fundamentals of Accounting & Financial Analysis: By Anil Chowdhry (Pearson Education)
2) Financial accounting: By Jane Reimers (Pearson Education)
3) Accounting Made Easy By Rajesh Agarwal & R Srinivasan (Tata McGraw –Hill)
4) Mastering Tally ERP 9: Basic Accounts, Invoice, Inventory by Asok K. Nadhani(BPB Publication)

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Organizational Behaviour
Subject Code	BCA-202
Marks	75 Marks
Lectures	50 Lectures

Learning Objectives:

To familiarize students with students with the basic concepts of organizational behaviour and to enhance their understanding the interaction of individual in the organization.

Learning Outcomes:

1. Students will become more self-aware and will have identifies areas of development for long term effectiveness.
2. Students will understand the role individuals play collectively to perform in the organization.

UNIT - I

1. Introduction of Organizational Behaviour   **10 Lectures**
   1.1   Understanding OB
   1.2   Nature
   1.3   Scope
   1.4   Models
   1.5   Significance of OB
   1.6   Emerging challenges in organizational Behaviour.

UNIT - II

2. Individual Behaviour & Motivation   **15 Lectures**
   2.1   Individual Behaviour
   2.2   Factors determining an Individual Behaviour
   2.3   Personality
   2.4   Determinant of Personality
   2.5   Traits of Personality
   2.6   Concept of Perception
   2.7   Attitude and Values
   2.8   Components of attitude
   2.9   Motivation-Meaning
   2.10 Importance of Motivation
   2.11 Theories on Motivation
   2.12 Maslow Theory
   2.13 Herzberg theory
   2.14 McGregor theory
   2.15 McClelland theory.

3. Group Behaviour & Leadership   15 Lectures

    3.1   Group Behaviour-Nature of groups
    3.2   Group Development
    3.3   Types
    3.4   Determinants of group behavior
    3.5   Group Decision Making.
    3.6   Leadership- Meaning
    3.7   Importance of Leadership
    3.8   Types of Leadership style
    3.9   Qualities of good leader
    3.10   Theories – contingency theory
    3.11   Situational theory, Behavioural theory
    3.12   Trait theory
    3.13   Contemporary trends in Leadership.

4. Work Stress   10 Lectures

    4.1   Meaning
    4.2   Types of stress
    4.3   Consequences of work stress
    4.4   Causes of stress
    4.5   Strategies for Managing work Stress

Reference books:

1. 'Organizational Behaviour' by K. Aswathappa. 13th Edition, Himalaya Publishing House.
2. 'Organizational Behaviour' by Luthans F, 7th Edition, McGraw Hill.
3. 'Essential of Organizational behaviour' by Robbins S. J., Text N.D.
4. 'Organizational behaviour' by John Schermerhorn & John Wiley, John Wiley & Sons.

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Web Technology
Subject Code	BCA-203
Marks	75 Marks
Lectures	50 Lectures

Objectives:

To improve the skill to create the static web page.

To develop the ability to create the dynamic web pages.

To enhance the ability of Insert a graphic within a web page.

To improve the skills to Create, validate and publish a web page.

Outcome:

1. Be able to use HTML programming

UNIT – I

1. **Introduction of HTML Documents**   **15 Lectures**
    1.1   Historical Roots of HTML,
    1.2   Web page, Website,
    1.3   Structure of HTML documents and Basic Tags: HTML, HEAD, TITLE, BODY
    1.4   Formatting Tags: Paragraph Tags, List tags, HR Tag.
    1.5   Headings Tags, PRE tag, DIV tag, SPAN tag.
    1.6   FONT Tag, ADDRESS tag, MARQUEE tag.
    1.7   Text-Level Elements & other different formatting tags.

UNIT – II

2. **Technologies for Web Application**   **10 Lectures**
    2.1   WWW, Web browser.
    2.2   U.R.L. concept.
    2.3   Web server, Web protocols: HTTP, FTP, Telnet.
    2.4   Hyperlink (Anchor) Tag & it's all attributes,
    2.5   Creating Email Hyperlinks (using mail to anchor)
    2.6   The Role of Images on the Web, tag & it's all attributes, Using Images as links.
    2.7   Tables in HTML:- TABLE, TR, TH, TD tag with example, table with all Attributes

3. Basic Interactivity and DHTML   **15 Lectures**

    3.1   Frames in HTML: FRAMESET & FRAME tags & its attributes

    3.2   Simple Frame Example. Forms in HTML: Introduction to forms.

    3.3   FORM element & it's attributes (Action, Method (GET, POST), Name)

    3.4   Form controls: Text Controls, Password Field, Multiline Text Input,

           1.   Pull-Down Menus, Check Box, Radio Buttons, Scrolled List,

           2.   Reset Button and Submit button.

    3.5   Introduction of DHTML, Ramifications of DHTML

    3.6   Rollover Buttons.

UNIT – IV

4. CSS and Java Script   **10 Lectures**

    4.1   Introduction to Cascading Style Sheets

    4.2   Embedded Styles, Inline Styles, Imported/External Styles.

    4.3   Introduction of JAVA Script

    4.4   Adding script to documents with example. Variables.

    4.5   Input and Output statements of JAVA Script

Reference Books:

1.   HTML The complete Reference (2nd Edition Thomas A Powel Tata McGraw Hill publication)

2.   The complete Reference (HTML & XHTML)- 5th Edition Thomas A Powel Tata McGraw Hill publication

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Elective : E-Commerce
Subject Code	BCA-204 A
Marks	75 Marks
Lectures	50 Lectures

Objective:

The objective of this course is to provide students with an overview and understanding of e-commerce with a specific emphasis on Internet Marketing.

Specifically, students will:

- Examine the ways that marketing can be done, and is being done, using the Internet.
- Gain an understanding of networked computers and the Internet. Students will learn to use the several Internet services such as the World Wide Web, Email. Use of these services for marketing purposes.

Outcome:

At the end of the course, the students is expected to realize the problems involved in designing and building e-commerce systems; understand the need to design EC systems that fully meet the requirements of the intended users; appreciate the need to ensure that the implementation of a design is adequately tested to ensure that the completed EC system meets the specifications.

UNIT I

1.	**Electronic Commerce**	**15 Lectures**

    1.1   Electronic Commerce

    1.2   Electronic Data Interchange (EDI)

    1.3   E-commerce Types

    1.4   E-Commerce and the world at large

    1.5   Internet Connectivity

    1.6   E-Commerce Case Studies

      a. Intel

      b. Amazon

    1.7   E-Governance Case Studies

      a. The US Government

      b. The UK Government

UNIT II		

2.   PCS & Networking   **10 Lectures**
   2.1   Networking
      a.   Network Topologies
   2.2   Communication Media
      a.   VSAT
      b.   Access Schemes
      c.   VSAT Network Components

UNIT III		

3.   Electronic Data Interchange (EDI)   **10 Lectures**
   3.1   Electronic Data Interchange (EDI)
   3.2   Costs and Benefits
   3.3   Components of EDI Systems
      a.   EDI Software
      b.   Communication of EDI Messages
   3.4   EDI Implementation Issues

UNIT IV		

4.   Electronic Payment Systems & Internet Banking   **15 Lectures**
   4.1   Payment Gateway
   4.2   Internet Banking
   4.3   PayPal
   4.4   The Secure Electronic Transaction Protocol
   4.5   Electronic Cash
   4.6   Electronic Cheque
   4.7   Elements of Electronic Payments

Reference Book
   1.   E-Commerce II Edition by K K Bajaj & D Nag (TATA McGraw HILL)

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Elective : Desktop Publishing (DTP)
Subject Code	BCA-204 B
Marks	75 Marks
Lectures	50 Lectures

Objective

This course will provide students the opportunity to learn to use basic features of desktop publishing software to create all types of publications: flyers, brochures, newsletters, and advertisements. Included in the course will be basic page layout and design principles and integrating text and graphics to create attractive business publications. The course will be taught with Adobe InDesign.

Outcomes

Create personal documents such as business cards and resumes.
Create business documents such as flyers and advertisements.
Create a newsletter with graphics and draw objects.
Create a course project illustrating Desktop Publishing techniques.

UNIT I

1. PAGEMAKER   **15 Lectures**
    1. PAGEMAKER BASICS
        1.1   Starting PageMaker.
        1.2   PageMaker Window Elements.
        1.3   Viewing the Page.
        1.4   Toolbox.
        1.5   Using the Zoom Tool.

UNIT II

2. WORKING WITH A PUBLICATION   **10 Lectures**
    2. Working With A Publication
        2.1   Opening a Publication.
        2.2   Creating a New Document.
        2.3   Setting the Margins.
        2.4   Setting the Page Size.
        2.5   Setting the Page Orientation.
        2.6   The Page Icons.
        2.7   Displaying Master Pages and Master Page Items.
        2.8   Inserting and Removing Pages, Inserting a Page, Removing a Page,
        2.9   Setting Page Numbers.
        2.10   Saving a New Document.

3.   INTRODUCTION TO ADOBE PHOTOSHOP   **10 Lectures**

   3. Basic Features of Adobe Photoshop.
   - 3.1   Various Page Mesurments.
   - 3.2   Use Of Various Tools..
   - 3.3   Layer Concepts,
   - 3.4   Basic Of Type :
   - 3.5   Control Settings & Placements.

| UNIT IV |

4.   IMAGE EDITING WITH ADOBE PHOTOSHOP   **15 Lectures**

   - 4.1   Images Contrast, Tonning & Colour Correction.
   - 4.2   Colour Conversions.
   - 4.3   Cleaning, Repairing & Altering Images.
   - 4.4   Shadow, Relection & Dimention.
   - 4.5   Creating Background, Patterns, Brushes, Texture & Frames.
   - 4.6   Types Effects.
   - 4.7   Freehand.

Reference Books:

1. Adobe PageMaker 7.0 Classroom in a Book by Adobe Creative Team
2. Adobe Photoshop 7.0 Classroom in a Book by Adobe Creative Team

Name of Course	Bachelor of Computer Application (BCA)
Semester	I
Name of Subject	**Open Elective: University recognized MOOC (NPTEL / SWAYAM / others) OR Intra / Inter Departmental courses**
Subject Code	BCA-205 A
Marks	75 Marks
Lectures	50 Lectures

OR

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	**Open Elective: Functional English**
Subject Code	BCA-205 B
Marks	75 Marks
Lectures	50 Lectures

Objectives of the Course:
1. A comprehensive use of English in day-to-day life.
2. To help Students develop the ability to learn and contribute critically.
3. To develop the writing skills of the students.
4. To help the students to understand the basic usages of English.

Course outcome:
By the end of this course students should be able to:
1. Understand and demonstrate Basic English usages for their different purposes.
2. Clear entrance examination and aptitude tests.
3. Write various letters, reports required for professional life.

Unit I

1.   Business Correspondence:-   **15 Lectures**
1.1 E-mail Writing: Invitation, job.
1.2 Essay Writing: Types, Structures etc.
1.3 Resume, Bio-data, and CV.

Unit II

2.   Reading Comprehension: **15 Lectures**
2.1 Basic Approaches for understanding English
2.2 Para Jumbles

Unit III

3.   Practical Grammar: **10 Lectures**
3.1 Basic usages of Tenses
3.2 Auxiliaries (Modal and Primary)
3.3 Phrasal Verbs

Unit IV

4. **Vocabulary**   **10 Lectures**

    4.1 One word substitution

    4.2 Idioms and Phrases

    4.3 Synonyms and Antonyms

    4.4 Spelling Mistakes

Reference Books -

1) Modern English Grammar-L. S. Deshpande (creative Publication)

2) A Practical English Grammar- A. J. Thomson. (Oxford University)

3) Macmillan Foundation English. - R. K. Dwivedi & a. Kumar   (Mammalian India Ltd)

4) Writing English for You- G. Radhakrishna Pillai (Emerland Publication)

5) High School English Grammar & Composition - Wren & Martin (S. Chand)

6) Radiance Communication Skills- Editorial Board (SRTM University) Orient Black Swan.

7) English Grammer and Composition – Rejendra Pal and Prem Lata Suri (Sultan Chand and Sons)

OR

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Open Elective: Corporate English
Subject Code	BCA-205 B
Marks	75 Marks
Lectures	50 Lectures

Objectives of the Course:
1. A comprehensive use of English in day-to-day life.
2. To help Students develop the ability to learn and contribute critically.
3. To develop the writing skills of the students.
4. To help the students to understand the basic usages of English.

Course outcome:
By the end of this course students should be able to:
1. Understand and demonstrate Basic English usages for their different purposes.
2. Clear entrance examination and aptitude tests.
3. Write various letters, reports required for professional life.

Unit I	
1. Practical usage of English:	**10 Lectures**
1.1 Group Discussion	
1.2 Seminar and Conference	
1.3 Interview	

Unit II	
2. Business Communication:	**10 Lectures**
2.1 E-mail and Cover letter writing	
2.2 Resume and CV	
2.3 Report writing	

Unit III	
3. Functional English	**15 Lectures**
3.1 Articles	
3.2 Prepositions	
3.3 Conjunctions	
4.4 Quantifiers	

Unit IV	
4. Basic Structures:	**15 Lectures**
4.1 Phrases	
4.2 Clauses	
4.3 Sentence: Basic Structures	

Reference Books -

1) Modern English Grammar -L. S. Deshpande (creative Publication)

2) A Practical English Grammar - A. J. Thomson. (Oxford University)

3) Developing Communication Skills.- Krishna Mohan & Meera Banerji (Macmillan India Ltd)

4) Macmillan Foundation English. - R. K. Dwivedi & a. Kumar   (Mammalian India Ltd)

5) Writing English for You- G. Radhakrishna Pillai (Emerland Publication)

6) High School English Grammar & Composition - Wren & Martin (S. Chand)

   7) Radiance Communication Skills- Editorial Board (SRTM University) Orient Black Swan.

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Lab-Course : Tally.ERP 9
Subject Code	BCA-206
Marks	50 Marks

1. Create a company (Trading, Manufacturing, Trust etc..)
2. Select, Alter, delete a company.
3. Backup / Restore a company.
4. Accounting information
    a. Create / update / delete Group / Group ledger
    b. Create / update / delete ledger.
5. Inventory Information
    a. Stock Group
    b. Stock Item
    c. Unit of Measure
6. Voucher entries
    a. Accounting vouchers (Payment, Sale , Purchase, contra entry, Journal entry, Receipts, debit note, credit note)
    b.   Inventory vouchers
7. Display Reports
    a. Financial details
        i.   Individual account
        ii.   Customized individual account
        iii. Balance sheet / trading account
        iv.   Day book
        v.   Group wise
        vi.   Item wise
        vii. Cash book
        viii. Bank book
    b. Inventory details
        i.   Stock summary
        ii.   Item wise
        iii. Group wise
    c. Exception Reports
8. Print
    a. Accounting books
    b. Inventory books
    c. Day book
    d. Multiple voucher printing
9. Company Features (shortcut key "F11")
    a. Accounting features
    b. Inventory Features
10. Configure a company (shortcut key "F12")

Name of Course	Bachelor of Computer Application (BCA)
Semester	II
Name of Subject	Lab-Course : Web Technology
Subject Code	BCA-207
Marks	50 Marks

1. Create a web page for describing the structure of HTML
2. Create a web page on text level elements
3. Create a web page for p, font, address, marquee tags.
4. Create a web page with anchor tag with all attributes.
5. Create a web page for img tag with all attributes.
6. Create a web page for table tag with all attributes.
7. Describe a frame tag with all attributes.
8. Create a web page for user registration form using all controls and attributes of form tag.
9. Create a web page for rollover button.
10. Create a web page for CSS of embedded styles
11. Create a web page for CSS of Inline styles.
12. Create a web page for CSS for imported/external styles.
13. Write a program for adding java script to documents in web page.
14. Write a program on input and output statements of java script.