Session 2021-22

Programme and Course Outcome

BCA

Multani Mal Modi College, Patiala

Program Outcomes (POs)

PO-1: Identify, formulate, review and analyze complex problems using various techniques.
PO-2: Communicate effectively on complex activities and with the society at large and write effective documentation, make effective presentation and give and receive clear instructions.
PO-3: Function effectively as an individual, and as a member or leader or project manager in project team.

PO-4: Recognize the needs for, and have the preparation and ability to engage in independent and lifelong learning.
PO-5: Development of analytical, programming and logical skills.

Course Outcomes (COs)

BCA - I

Semester-1st

Code	Course
BCA-111	General English – I
BCA-112	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **
BCA-113	Fundamentals of Information Technology
BCA-114	Programming Fundamentals using C
BCA-115	Software Lab –I (Windows and Office Automation)
BCA-116	Software Lab – II (Based on paper BCA-114: Programming Fundamentals using C)

Semester-2nd

Code	Course
BCA-121	General English – II
BCA-122	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **
BCA-123	Digital Electronics
BCA-124	Data Structures
BCA-125	Basic Mathematics
BCA-126	Software Lab – III (based on BCA-124: Data Structures)
BCA-127	Drug Abuse : Problem, Management and Prevention***

BCA-111: General English – I

After completion of this course, students will be able to:

CO-1: Generate their competence of both active and passive elements of the English language i.e, writing and speaking and listening and reading.

CO-2: Deepen their understanding of accurate usage of English grammar in writing and speaking.

CO-3: Enlarge their vocabulary by keeping a vocabulary lexicon.

CO-4: Learn to transform their native language into the target language.

CO-5: Learn to write accurate English essays and letters.

CO-6: Enhance their confidence by having translation drills and through speaking English practice sections.

BCA-112: Punjabi (Compulsory)

After completion of this course, students will be able to:

CO-1: ਭਾਸ਼ਾਈ ਸੰਰਚਨਾ ਦੇ ਨੇਮਾਂ ਨੂੰ ਸਮਝ ਕੇ ਉਸਦੀ ਵਰਤੋਂ ਰੋਜ਼ਾਨਾ ਜ਼ਿੰਦਗੀ ਵਿੱਚ ਕਰਨਾ

CO-2: ਭਾਸ਼ਾ ਦੇ ਜਰੀਏ ਮਨੁੱਖੀ ਭਾਵਾਂ ਨੂੰ ਸਮਝ ਕੇ ਸਮਾਜ ਦਾ ਵਿਸ਼ਲੇਸ਼ਣ ਕਰਨ ਦੇ ਯੋਗ ਹੋਣਾ

CO-3: ਗੁਰਮੁਖੀ ਲਿਪੀ ਦੇ ਭਾਸ਼ਾਈ ਵਿਕਾਸ ਦੇ ਵਿਭਿੰਨ ਪੜਾਵਾਂ ਨੂੰ ਸਮਝਣ ਦੀ ਚੇਤਨਾ

CO-4: ਮਨੁੱਖੀ ਹੋਂਦ ਦੇ ਸੰਕਟਾਂ ਦੀ ਨਿਸ਼ਾਨਦੇਹੀ ਅਤੇ ਉਹਨਾਂ ਦਾ ਯੋਗ ਹੱਲ ਲੱਭਣਾ

CO-5: ਸਾਹਿਤਕ ਰਚਨਾਵਾਂ ਦੇ ਮਾਧਿਅਮ ਨਾਲ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਾਹਿਤਕ ਰੁਚੀਆਂ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

BCA-113: Fundamentals of Information Technology

Upon the completion of the course the learner will be able to

PO-1: Familiarization with the types of computer, peripheral devices, memory management, multimedia and number system.

PO-2: Learn about working of various input and output devices.

PO-3: Learnt about binary number representation along with its operations.

PO-4: Understand theoretical framework of internet and associated application of theinternet.

PO-5: Acquire the knowledge about the binary number representation along with its operations.

PO-6: Understand of the role of computers in business, education and society.

BCA-114: Programming Fundamentals Using C

After completion of this course, students will be able to:

CO-1: Understand of various concepts of programming language.

CO-2: Develop logics and analytical ability solve problem.

CO-3: Learn about procedural programming using functions.

CO-4: Acquired various flow control statements.

CO-5: Learn about various storage classes along with user defined data types.

CO-6: Acquire knowledge of file handling

CO-7: Work with arrays of complex structure data types.

CO-8: Understanding a concept of functional hierarchical code organization.

BCA-115: Software Lab-I

After completion of this course, students will be able to:

CO-1: Have basic knowledge of computer Hardware and Software.

CO-2: Understand business areas to which computers may be applied.

CO-3: Installation of Operating System (Windows), application software and to use Windows OS.

CO-4: Provide practical knowledge to Office tools (MS Word, Excel and Power Point).

CO-5: Use of MS-Word to type documents with various formatting.

CO-6: Creating and manipulating Datasheets for different applications.

CO-7: Designing effective presentations using Power Point software.

BCA-116: Software Lab-II

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Design algorithms and flowchart to solve programming problems.

CO-2: Write, compile and debug programs in C language. Use different data types, operators and console I/O function in a computer program.

CO-3: Design programs involving decision control statements, loop control statements and case control structures.

CO-4: Understand the implementation of arrays, pointers and functions and apply the dynamics of memory by the use of pointers.

CO-5: Comprehend the concepts of structures and union: declaration, initialization and implementation.

CO-6: Use the file operations, character I/O, string I/O, file pointers, and create/update basic data files.

BCA-121: General English – II

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Enhance their competence in writing and speaking skills to the next level.

CO-2: Make use of new lexical terms after going through verbs, adjectives and idioms.

CO-3: Learn to write with the accurate use of Active and Passive voices after completing the taught exercises by the teacher.

CO-4: Start writing in the reported speech that usually confuses the learner. The conversion of Direct Speech to Indirect Speech will create a crystal clarity to the learners.

CO-5: Learn different type of sentences e.g. Affirmative, Negative, Interrogative, Assertive, Exclamatory and so on.

CO-6: The next level drills of the translation will help the students to create new complex sentences from their mother tongue to the target language.

BCA-122: Punjabi (Compulsory)

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: ਰੂਪਾਕਾਰ ਨਿਬੰਧ ਰਾਹੀਂ ਜ਼ਿੰਦਗੀ ਦੀਆਂ ਤਲਖ਼ ਹਕੀਕਤਾਂ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋਣਾ

CO-2: ਵਪਾਰਕ ਪੱਤਰ ਵਿਹਾਰ ਰਾਹੀਂ ਵਪਾਰਕ ਪੱਧਰ 'ਤੇ ਸਮਰੱਥ ਹੋਣਾ

CO-3: ਭਾਸ਼ਾ ਦੇ ਵਿਭਿੰਨ ਰੂਪਾਂ ਨੂੰ ਸਮਝ ਕੇ ਸਮਾਜ ਵਿੱਚ ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਰੂਪ ਵਿੱਚ ਵਿਚਰਨ ਦੀ ਯੋਗਤਾ

CO-4: ਭਾਸ਼ਾ ਦੀ ਸਮਰੱਥਾ ਪਛਾਣ ਕੇ ਅੰਦਰਲੀ ਯੋਗਤਾ ਦਾ ਸਹੀ ਪ੍ਰਯੋਗ ਕਰਨਾ

CO-5: ਸਾਹਿਤਕ ਰਚਨਾਵਾਂ ਦੇ ਮਾਧਿਅਮ ਨਾਲ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਾਹਿਤਕ ਰੁਚੀਆਂ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

BCA-123: Digital Electronics

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Acquire knowledge about Analog and Digital Systems and various digital logic gates.

CO-2: Distinguish between various number systems and their conversions and computer arithmetic.

CO-3: Develop K-Maps representation and simplification logic functions up to 4 variables.

CO-4: Understand, analyze and design various combinational and sequential circuits such as encoders, decoders and counters using multiplexers, and flip – flops.

CO-5: Describe analog to digital and digital to analog conversion circuits.

BCA-125: Basic Mathematics

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Understand the concept and solve complex numbers and quadratic equations.

CO-2: Understand and use of co-ordinate geometry in modern scientific computing.

CO-3: Apply Matrices and Determinants for solving problems appropriate problems.

CO-4: Familiar with representation of floating point number system, arithmetic operation and errors in normalized floating point numbers.

CO-5: Solve transcendental and simultaneous algebraic equations using different methods under different parameters.

BCA-124: Data and File Structures & BCA-126: Software Lab-III (based on BCA-124)

After completion of this course, students will be able to:

CO-1: Be familiar with basic data structure and algorithms.

CO-2: Design and analyze programming problem statements

CO-3: Choose appropriate data structures and algorithms and use it to design algorithms for a specific problem.

CO-4: Handle operations like searching, insertion, deletion and traversing mechanism

CO-5: Come up with analysis of efficiency and proofs of correctness

BCA-127: Drug Abuse: Problem, Management and Prevention***

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Understand the extent of the problem of Drug Abuse and its prevalence.

CO-2: Differentiate Drug Abuse from Drug Dependence and Drug Addiction.

CO-3: Gain conceptual understanding about Drug tolerance and examine the difference between Physical and Psychological dependence on drugs.

CO-4: Identify short and long term effects and withdrawal symptoms of drugs like stimulants, depressants: Alcohol, Barbiturates, Narcotics, hallucinogens, steroids and Inhalants.

CO-5: Analyze the nature of the problem of Drug abuse by learning about vulnerable age groups, Physical, academic, behavioral and Psychological indicators.

CO-6: Evaluate the Physiological, Psychological and Sociological causes of drug abuse along with its consequences for individuals, families, society and the nation.

CO-7: Understand the overview of Management and Prevention of Drug Abuse by visiting a Drug De-addiction Centre. The students will also be able to assess the role of Family, School, Media, Legislation and De-addiction Centers in combating the menace of Drug Abuse.

Course Outcomes (COs)

B. Com - II

Semester-3rd

Code	Course
BCA-211	English Communication Skills – I
BCA-212	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan)**
BCA-213	Discrete Mathematics
BCA-214	Computer System Organization and Architecture
BCA-215	Object Oriented Programming using C++
BCA-216	Fundamentals of Database Management System
BCA-217	Software Lab – IV (Object Oriented Programming using C++ Lab)
BCA-218	Software Lab – V (DBMS using MS Access Lab)

Semester-4th

Code	Course
BCA-221	English Communication Skills – II
BCA-222	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **
BCA-223	Computer Networks
BCA-224	Management Information Systems
BCA-225	Computer Oriented Numerical and Statistical Methods
BCA-226	Relational Database Management Systems with Oracle
BCA-227	Software Lab – VI (Computer Oriented Numerical and Statistical Methods Lab)
BCA-228	Software Lab – VII (Oracle Lab)
BCA-229	Environmental and Road Safety Awareness (Qualifying Exam)

BCA-211: English Communications Skills - I

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Write with competency with a critical and creative insight.

CO-2: The taught prescribed literature book Prose Parable will be an insightful source for the students that will help them in understanding social and moral philosophy.
CO-3: Start forming new dialogues with the given paragraphs that will give them new dimensions to their foresight and creativity.
CO-4: Write and speak with accuracy and precision after going through the exercises of error in the sentences.
CO-5: The topic 'Curriculum Vitae' taught by the teacher will make the learner conscious about their earned credentials and the potentials to be generated.

BCA-212: Punjabi (Compulsory)
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1:ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਾਹਿਤਕ ਰੁਚੀਆਂ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

CO-2:ਰੂਪਾਕਾਰ ਕਹਾਣੀ ਰਾਹੀਂ ਜ਼ਿੰਦਗੀ ਦੀਆਂ ਤਲਖ਼ ਹਕੀਕਤਾਂ ਸਮਝਣ ਦੇ ਯੋਗ ਹੋਣਗੇ

CO-3:ਭਾਸ਼ਾ ਦੇ ਵਿਭਿੰਨ ਰੂਪਾਂ ਨੂੰ ਸਮਝਕੇ ਸਮਾਜ ਵਿੱਚ ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਰੂਪ ਵਿੱਚ ਵਿਚਰਨ ਦੀ ਯੋਗਤਾ ਪੈਦਾ ਹੋਵੇਗੀ

CO-4:ਭਾਸ਼ਾ ਦੀ ਸਮਰੱਥਾ ਪਛਾਣ ਕੇ ਅੰਦਰਲੀ ਯੋਗਤਾ ਦਾ ਸਹੀ ਪ੍ਰਯੋਗ ਕਰਨਾ ਸਿੱਖਣਗੇ

CO-5:ਭਾਸ਼ਾਈ ਨੇਮਾਂ ਨੂੰ ਸਮਝ ਕੇ ਭਾਸ਼ਾਈ ਸੰਜਮਤਾ ਤੇ ਅਨੁਸ਼ਾਸ਼ਨ ਦੀ ਯੋਗਤਾ ਪੈਦਾ ਕਰਨਾ

BCA-213: Discrete Mathematics
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Learn the mathematical reasoning and important problem solving skills.
CO-2: Understand the basic concepts of Set theory and foundation for imbedding logical reasoning in computer science.
CO-3: Understand and create mathematical arguments.
CO-4: Apply the concept of Graph and tree in practical applications.

BCA-214: Computer System Organization and Architecture
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand computer organization and its working, processing of an instruction by the CPU.
CO-2: Understand the various other important component of a computer system like Memory, Registers, Arithmetic Logic unit, Control unit, Peripheral devices.
CO-3 Learn the concepts related with execution of instructions, working of addressing modes, interface and its use in the working of peripheral devices, interrupt signals, direct memory access.
CO-4: Learn the concepts related with digital electronics to understand the working of components like logic gates, flip flops, counters, and multiplexers etc., which are used to build components in a computer.

BCA-215: Object Oriented Programming using C++

After the completion of the course the learner will be able to

CO-1: Understand the benefits of Object-Oriented Programming (OOP) as compare to Traditional Programming approach and resolve problem in domain of object-oriented programming.

CO-2: Familiarization with a widely range of features of object-oriented programming using C++

CO-3: Understand Object oriented approach for finding solutions to various problems with the help of C++ language.

CO-4: Understand the concept of polymorphism with the help function overloading and virtual functions.

CO-5: Acquire various types of various types and forms of inheritance.

CO-6: Understand basic of generic functions and classes.

BCA-216: Fundamentals of Database Management System

Upon the completion of the course the learner will be able to

CO-1: Familiarization with various features and applications of Database Management system.

CO-2: Acquire knowledge about database languages (DDL, DML, DCL)

CO-3: Learn how to design a database by using different data models.

CO-4: Understand the database handling during execution of the transactions along with concurrent access.

CO-5: Ability to perform various types of SQL queries.

CO-6: Able to design a good database using normalization, decomposition and functional dependency

BCA-217: Software Lab – IV (Object Oriented Programming using C++ Lab)

COURSE OUTCOMES

After completion of this course, students will be able to:

CO-1: Understand the intricacies of Object Oriented Programming including the features and peculiarities of the C++ programming language.

CO-2: Illustrate the concept of Inheritance, operator overloading, and polymorphism.

CO-3: Implement various objects oriented concepts to solve practical problems.

CO-4: Apply the concepts of OOPs using C++ in programming.

BCA-218: Software Lab – V (DBMS using MS-Access Lab)

COURSEOUTCOMES

After completion of this course, students will be able to:

CO-1: Understand database concepts and importance of database design.

CO-2: Understanding the concepts of DMBS architecture.

CO-3: Understand the objectives of normalization and what role it plays in the database design process.

CO-4: Become proficient in creating and using tables, queries, reports and forms in MS-Access.

BCA-221: English Communications Skills - II
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Increase their reading rate and cognition of fiction via the novel The Old Man and The Sea.
CO-2: Improve their reading fluency skills through extensive reading.
CO-3: Enlarge their vocabulary by keeping a vocabulary lexicon while dealing with literature.
CO-4: Enhance their level of understanding of sentences after having the revisions of Narration & Active and Passive voices
CO-5: Generate accuracy in writing and speaking skills.

BCA-222: Punjabi (Compulsory)
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: ਕਵਿਤਾ ਨੂੰ ਪੜ੍ਹਦਿਆਂ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਾਹਿਤਕ ਰੁਚੀ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

CO-2: ਕਵਿਤਾ ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਕਲਪਨਾ ਸ਼ਕਤੀ ਦਾ ਵਿਕਾਸ ਕਰੇਗੀ

CO-3: ਕਵਿਤਾ ਦੁਆਰਾ ਵਿਦਿਆਰਥੀਆਂ ਸ਼ਬਦ ਦੀ ਸਮਰੱਥਾ ਅਤੇ ਪਰਤਾਂ ਬਾਰੇ ਸਹੀ ਅਰਥਾਂ ਵ੍ਵਿਚ ਜਾਨਣਗੇ।

CO-4: ਗੁਰਮੁਖੀ ਲਿੱਪੀ ਦੀ ਵਿਕਾਸ ਪ੍ਰਕਿਰਿਆ ਬਾਰੇ ਪੜ੍ਹਦੇ ਹੋਏ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਲਿੱਪੀ ਦੇ ਆਪਸੀ ਸਬੰਧਾਂ ਨੂੰ ਸਮਝ੍ਝਣਗੇ

CO-5: ਲਿੱਪੀ ਨੂੰ ਸਮਝ੍ਝਣ ਤੋਂ ਬਾਅਦ ਭਾਸ਼ਾ ਦੀ ਸਮਰਥਾ ਪਛਾਨਣ ਦੇ ਯੋਗ ਹੋਣਗੇ

BCA-223: Computer Networks
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand the functions of different layers of TCP/IP and OSI reference models.
CO-2: Classify of networks-LAN, MAN and WAN.
CO-3: Identify and understand various techniques and modes of transmission media with real time applications.
CO-4: Understand the fundamentals of Network security.

BCA-224: Management Information System
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand the concept of information, system, value of information, elements of a system and role of information system.

CO-2: Understand the classification of MIS.
CO-3: Experience various stages in the development of MIS and applications of Information Systems in functional areas of MIS.
CO-4: Have a clear idea about DSS and its difference from MIS.

BCA-225: Computer Oriented Numerical and Statistical Methods & BCA-227: Software Lab – VI (Computer Oriented Numerical and Statistical Methods)
After completion of this course, students will be able to:
CO-1: Solve algebraic equations using different methods under different parameters.
CO-2: Be familiar with numerical integration and differentiation
CO-3: Analyze statistical data using measures of central tendency and dispersion.
CO-4: Calculate and interpret the methods of correlation and regression analysis.
CO-5: Implement numerical and statistical methods in C/C++.

BCA-226: Relational Database Management System with Oracle & BCA-228: Software Lab – VII (Oracle Lab)
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand the core terminology of Relational Database Management System.
CO-2: Understand and apply the concept of Transaction Processing, Concurrency Control Mechanism, and Recovery system in database.
CO-3: Comprehend Relational Query Languages.
CO-4: Use SQL syntax for Data Administration, Manipulation and to query a database to retrieve information.

BCA-229: Environmental and Road Safety Awareness
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand the structure and function of an ecosystem and ecosystem links between environmental components and their role.
CO-2: Recognize the importance of environment and the sustainable of natural resources.
CO-3: Use scientific reasoning to recognize and comprehend environment issues and evaluate potential solutions.
CO-4: Well versed with environmental protection laws in India.
CO-5: Understand the concept and significance of Road safety.

Course Outcomes (COs)

B. Com - III
Semester- 5th

Code	Course
BCA-311	English Literary Skills – I
BCA-312	System Analysis and Design
BCA-313	System Software
BCA-314	Java Programming
BCA-315	Web Designing using HTML and DHTML
BCA-316	Software Lab – IX (based on paper BCA-314: Java Programming)
BCA-317	Software Lab – X (based on paper BCA-315: Web Designing using HTML and DHTML)
BCA-318	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

Semester- 6th

Code	Course
BCA-321	English Literary Skills – II
BCA-322	E-Commerce
BCA-323	Operating Systems
BCA-324	Software Engineering
BCA-325	Web Designing using ASP.NET
BCA-326	Software Lab – XI (More on Java based on BCA-314: Java Programming)
BCA-327	Software Lab – XII (based on BCA-325: Web Designing using ASP.NET)

BCA-328	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

BCA -311: English Literary Skills – I
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Attain the intrinsic knowledge of human behaviour by reading Popular Short Stories book.
CO-2: By learning new words pertaining to places, trades, church, marriage, arts and science, the learners will have more knowledge of physical and social entities.
CO-3: The grammar book will create accuracy and precision in students' writings and conversation.
CO-4: Bring the students to a new advanced level of learning the English language.
CO-5: The prescribed lists of synonyms and antonyms will make the students more refined in selecting appropriate words for usage.

BCA-312: System Analysis and Design
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Understand the term System in the real world.
CO-2: Understand all terms and concepts related with the various systems existing.
CO-3: Learn Computer functioning as a System.
CO-4: Understand all steps related with the creation of a System, starting from its analysis to its design to its implementation including the hardware software selection for the same.

BCA-313: System Software
COURSE OUTCOMES
After completion of this course, students will be able to:
CO-1: Learn and understand the System at the level of the operating system that is System software.
CO-2: Understand System in terms of the processors, loaders and linkers.
CO-3: Learn the working of Compilers as well as their construction and use.
CO-4: Knowledge of various software tools like program developers, editors, debuggers and user interfaces.

BCA-314: Java Programming & BCA-316: Software Lab-IX
After completion of this course, students will be able to:
CO-1: Design programs involving decision control statements, loop control statements and case control structures.
CO-2: Understand the implementation of arrays, and functions and apply the dynamics of memory by the use of memory management schemes.

CO-3: Comprehend the concepts of classes and objects: declaration, initialization and implementation.
CO-4: Apply basics of object oriented programming, polymorphism and inheritance, Exception Handling, Multithreading.
CO-5: Use the file operations, character I/O, string I/O, and create/update basic data files.
CO-6: Understand and learn the concepts of Applets.

BCA-315: Web Designing using HTML and DHTML & BCA – 317: Software Lab-X

After completion of this course, students will be able to:
CO-1: Write and debug webpage using HTML and DHTML languages.
CO-2: Knowledge and Use of web publishing and phases related with the website development.
CO-3: Make use of knowledge related to links, addresses, images, and tables.
CO-4: Knowledge of various formatting options on HTML page and web site.
CO-5: Knowledge of Server Side programming.

BCA-318: Punjabi Compulsory or Punjabi Compulsory
After completion of this course, students will be able to:
CO-1: ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਵਿਭਿੰਨ ਸਾਹਿਤਕ ਰੂਪਾਕਾਰਾਂ ਵ੍ਵਿਚ ਰੁਚੀ ਪੈਦਾ ਹੋਵੇਗੀ

CO-2: ਵਿਦਿਆਰਥੀ ਤਕਨੀਕ ਦੇ ਦੌਰ ਵ੍ਵਿਚ ਹੁੰਦੇ ਹੋਏ ਲੋਕਧਾਰਾਈ ਬੋਧ ਬਾਰੇ ਗਿਆਨ ਹਾਸਿਲ ਕਰਨਗੇ

CO-3: ਵਿਦਿਆਰਥੀਆਂ ਆਪਣੀਆਂ ਪਰੰਪਰਾਵਾਂ ਦਾ ਸਮਕਾਲ ਨਾਲ ਮੇਚ ਕੇ ਮੁਲਾਂਕਣ ਕਰਨ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ

CO-4: ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪੰਜਾਬ ਦੇ ਮੇਲੇ ਅਤੇ ਤਿਉਹਾਰਾਂ ਬਾਰੇ ਵਿਸਥਾਰ ਨਾਲ ਪਤਾ ਲੱਗੇਗਾ

CO-5: ਵਿਦਿਆਰਥੀ ਵਿਆਕਰਨ ਨੂੰ ਭਾਸ਼ਾ ਦੇ ਪ੍ਰਯੋਗ ਹਿੱਤ ਕੁਸ਼ਲਤਾ ਨਾਲ ਪ੍ਰਯੋਗ ਕਰਨਗੇ

BCA-321: English Literary Skills-II
After completion of this course, students will be able to:
CO-1: Gain not only innate insight of human behaviour but also the terms of drama by reading Short Plays book.
CO-2: By learning new words referring to death, war, science and nature, the students will have supplementary knowledge of material and nature elements.
CO-3: The grammar book will create accuracy and precision in students' writings and conversation.
CO-4: Bring the students to a new advanced level of learning the English language.
CO-5: The prescribed figure of speech i.e. verbs, adjectives and adverbs will make the students more polished in determining proper words for usage.

BCA-322: E-Commerce
After completion of this course, students will be able to:
CO-1: Understand E-commerce as a process.

CO-2: Learn the difference that exist between traditional and latest e-commerce procedures and outcomes.
CO-3: Understand the concepts and technologies like internet for implementation of e-commerce.
CO-4: Learn various consumer oriented e-commerce concepts in the form of models et cetera.
CO-5: Knowledge of advertisement and marketing using internet technology.

BCA-323: Operating Systems
After completion of this course, students will be able to:
CO-1: Learn the mechanisms of OS to handle processes and threads and their communication.
CO-2: Use different data types, operators and console I/O function in a computer program.
CO-3: Learn the mechanisms involved in memory management in contemporary OS.
CO-4: Gain knowledge on distributed operating system concepts that includes architecture, deadlock detection algorithms and agreement protocols.
CO-5: Understand different approaches to memory management.
CO-6: Understand the structure and organization of the file system

BCA-324: Software Engineering
On completion of this course, the students will be able to:
CO-1: Understand the basic concepts, models, life cycle of software development.
CO-2: Learn higher level concepts like Re-engineering, Reverse Engineering, Forward Engineering, and CASE tools.
CO-3: Knowledge of all the steps of software engineering and their use and implementation in real problems
CO-4: Understanding of programming language and using it to develop software using all stages of software development.

BCA-326: Software Lab-XI
After completion of this course, students will be able to:
CO-1: Understand the basic concepts related with the development of software.
CO-2: Ability to develop software both at simple level as well as complex level.
CO-3: Understand various models for software development.
CO-4: Understand the life cycle of a software.
CO-5: Learn higher level concepts like Re-engineering, Reverse Engineering, Forward Engineering, CASE tools.
CO-6: Knowledge of all the steps of software engineering and their use and implementation in real problems
CO-7: Understanding of programming language and using it to develop software using all stages of software development.

BCA-325: Web Designing using ASP.NET & BCA-327: Software Lab-XII
After completion of this course, students will be able to:
CO-1: Write, compile and debug programs using ASP.NET language.
CO-2: Knowledge and Use of different data types, operators, loops and other control structures in web programming.
CO-3: Design programs accepting user inputs and various other standard controls.
CO-4: Understand the implementation of arrays, and events.
CO-5: Comprehend the concepts of classes and objects: declaration, initialization and implementation.
CO-6: Apply the various rich web features like file uploads, debugging, caching and deploying ASP.NET pages et cetera.
CO-7: Understand and learn the concepts related with ASP.NET security, localizing ASP.NET applications.
CO-8: Ability to develop programs to implement and use all the above specified concepts and features in programming.

BCA-328: Punjabi (Compulsory) or Punjabi
After completion of this course, students will be able to:
CO-1: ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਸਾਹਿਤ ਦੇ ਰੂਪਾਕਾਰਾਂ ਵ੍ਵਿਚ ਰੁਚੀ ਪੈਦਾ ਹੋਵੇਗੀ

CO-2: ਉਹਨਾ ਅੰਦਰ ਸਾਹਿਤਕ ਅਤੇ ਰਚਨਾਤਮਕ ਯੋਗਤਾ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

CO-3: ਅੰਗਰੇਜ਼ੀ ਤੋਂ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਕਰਦੇ ਹੋਏ ਭਾਸ਼ਾਈ ਸਾਂਝਾਂ ਅਤੇ ਵਖਰੇਵਿਆਂ ਬਾਰੇ ਜਾਨਣ ਦੇ ਸਮਰੱਥ ਹੋਣਗੇ

CO-4: ਰੋਜ਼ਾਨਾ ਜ਼ਿੰਦਗੀ ਵ੍ਵਿਚ ਭਾਸ਼ਾਈ ਯੋਗਤਾ ਦਾ ਵਿਕਾਸ ਹੋਵੇਗਾ

CO-5: ਸਿਵਲ ਪ੍ਰੀਖਿਆਵਾਂ ਵ੍ਵਿਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਅਧਿਐਨ ਉਹਨਾਂ ਨੂੰ ਮਜਬੂਤ ਆਧਾਰ ਪ੍ਰਦਾਨ ਕਰੇਗਾ