

DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY
Chhatrapati Sambhajanagar.



NAAC- 'A' Grade

CIRCULAR /SU/CM/Revised Syllabus/NEP/81/2026

It is hereby inform to all concerned that, on the recommendation of the Dean, Faculty of Commerce & Management, *the Academic Council at its meeting held on 02 Jun, 2026 has been accepted the following "Revised Syllabus of Under Graduate Level as per the National Education Policy-2020* under the Faculty of Commerce & Management run at all Affiliated Colleges, Dr. Babasaheb Ambedkar Marathwada University.

Sr.No.	Courses	Semester
1.	B.Com	V & VI
2.	B.Com (E-Commerce)	V & VI
3.	B.B.A	V & VI
4.	B.C.A	V & VI
5.	B.C.M	V & VI

This is effective from the Academic Year 2026-27 and Onwards as per appended herewith.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and necessary action.

University Campus,
Chhatrapati Sambhajanagar
-431 004.

REF.NO. SU/Com/2026-27/4471-73
Date:- 05/06/2026.

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*Deputy Registrar,
Syllabus Section.*

Copy forwarded with to Information and Necessary Action:-

- 1] The Principal of all concerned affiliated colleges,
Dr. Babasaheb Ambedkar Marathwada University. Chhatrapati Sambhajanagar
- 2] The Director, Board of Examination & Evaluation.
- 3] The Director, University Network & Information Centre, UNIC, with a request to upload this Circular on University Website.
Dr. Babasaheb Ambedkar Marathwada University Chhatrapati Sambhajanagar.

**Dr. Babasaheb Ambedkar Marathwada University
Chhatrapati Sambhajnagar-431001**



**B.C.M
V & VI Semester
Degree Program in Affiliated Colleges to
Dr. Babasaheb Ambedkar Marathwada University
Under Faculty of Commerce & Management
(AS PER NEP-2020)**

Effective from 2026-27

Dr.Babasaheb Ambedkar Marathwada University,
Faculty of Management Science
Curriculum Structure
Bachelor of Computer Management (BCM) Honours
Academic Year 2026-2027
Semester –V

Course Type		Course Code	Course Title	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC : Discipline Specific Core							
Major-(Core) Mandatory	DSC -13	BCM501T	Java Programming	02 hrs/per week	02	50	30	20	20
	DSC -14	BCM502T	Software Engineering	02 hrs/per week	02	50	30	20	20
	DSC -15	BCM503P	Java Programming -Lab	04 hrs/per week	02	50	30	20	20
	DSC -16	BCM504P	Software Engineering -Lab	04 hrs/per week	02	50	30	20	20
		DSE: Discipline Specific Elective (Choose any one from pool of courses)							
DSE: Discipline Specific Elective	DSE -1	BCM505T	A) C#	02 hrs/per week	02	50	30	20	20
			B) Web Development using PHP	02 hrs/per week	02	50	30	20	20
	DSC -2	BCM506P	A) C# - Lab	04 hrs/per week	02	50	30	20	20
			B) Web Development using PHP - Lab	04 hrs/per week	02	50	30	20	20
Minor (Choose any two from pool of courses) It is from different discipline of the same faculty									
Minor	MN-5	BCM507T	A] Digital Marketing	02 hrs/per week	02	50	30	20	20
			B] Image Processing	02 hrs/per week	02	50	30	20	20
			C] Cyber Security-II	02 hrs/per week	02	50	30	20	20
	MN-6	BCM508T	A] Performance Management System	02 hrs/per week	02	50	30	20	20
			B]Basic of Banking & Indian Financial System	02 hrs/per week	02	50	30	20	20
			C] Tourism Management	02 hrs/per week	02	50	30	20	20
		VSC : Vocational Skill Courses (Choose any one)							
VSC : Vocational Skill Courses (Choose any one)	VSC-5	BCM509T	A] Cyber Security & Law -II	02 hr/per week	02	50	30	20	20
			B] Entrepreneurship	02 hrs/per week					
	VSC -6	BCM510P	A] Cyber Security & Law –II Lab	04 hr/per week	02	50	30	20	20
			B]Entrepreneurship -Lab	04 hr/per week					
		OJT/ FP/CEP/CC/RP(Choose any one frompool of courses)							
	FP/CEP-2	BCM511P	Field Project / community engagement and service	04 hrs/per week	02	50	30	20	20
					22	550			

DSC: Discipline Specific Core

Subject Title	JAVA Programming		
Subject Ref No	BCM501T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to the fundamentals of Java programming and develop a basic understanding of object-oriented programming. The course focuses on building programming logic and enabling students to write simple Java applications using core programming concepts.			
Course Outcomes			
<i>After successful completion of this course, students will be able to:</i>			
CO1:	Explain the basic features, structure and execution process of Java programs		
CO2:	Apply variables, data types, operators, control statements, arrays and strings to solve basic programming problems		
CO3:	Develop simple Java programs using classes, objects, methods and constructors.		
CO4:	Demonstrate basic object-oriented concepts such as encapsulation, inheritance, interfaces and exception handling		

Pre-Requisite		No Of Lectures:
<u>Unit – 1</u>	Introduction to Java and Programming Basics Topics: • Introduction to Java • History and Features of Java • Advantages and Applications of Java • Java Development Kit (JDK), JRE and JVM • Java Program Structure • Installing and Setting up Java Environment • Writing, Compiling and Executing a Java Program • Keywords and Identifiers • Variables and Constants • Data Types in Java • Type Casting • Operators in Java ○ Arithmetic ○ Relational ○ Logical ○ Assignment ○ Increment and Decrement • Input and Output using Scanner	10

	• Decision-Making Statements ◦ if ◦ if-else ◦ nested if ◦ switch • Looping Statements ◦ for ◦ while ◦ do-while • Use of break and continue • Basic Programs based on Java Fundamentals	
<u>Unit – 2</u>	Arrays, Strings, Methods and Object-Oriented Programming Arrays and Strings • Introduction to Arrays • One-Dimensional Arrays • Two-Dimensional Arrays • Array Traversal • Basic Array Programs • Introduction to Strings • String Creation and Initialization • Common String Methods • Basic String Programs Methods • Introduction to Methods • Method Declaration and Calling • Parameters and Return Values • Method Overloading • Static Methods Object-Oriented Programming • Introduction to OOP • Class and Object • Creating Classes and Objects • Instance Variables and Methods • Constructors • Default and Parameterized Constructors • this Keyword • Encapsulation • Access Modifiers ◦ public ◦ private ◦ protected ◦ default • Introduction to Inheritance • Types of Inheritance supported in Java • Method Overriding • super Keyword	10
<u>UNIT -3</u>	Exception Handling, Packages and File Handling Exception Handling • Introduction to Exceptions • Types of Exceptions	10

	• try and catch • Multiple Catch Blocks • finally • throw and throws • Basic Exception Handling Programs Interfaces and Packages • Introduction to Interfaces • Creating and Implementing an Interface • Introduction to Packages • Creating a User-Defined Package • Importing and Using Packages Basic File Handling • Introduction to Files • Creating and Reading Files • Writing Data into Files • Basic File Handling using Java Classes • Simple File Handling Programs Introduction to Multithreading • Introduction to Threads • Creating a Thread • Thread Life Cycle – Basic Understanding • Simple Multithreading Example	
Text Books: 1. E. Balagurusamy, <i>Programming with Java</i>, 7th Edition, McGraw Hill Education, 2024. 2. R. Nageswara Rao, <i>Core Java: An Integrated Approach</i>, Dreamtech Press. Reference Books: 1. Paul Deitel and Harvey Deitel, <i>Java How to Program</i>, Pearson. 2. Herbert Schildt, <i>Java: The Complete Reference</i>, McGraw Hill. 3. E. Balagurusamy, <i>Programming with Java: A Primer</i>, McGraw Hill.		

Subject Title	Software Engineering		
Subject Ref No	BCM502T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to the systematic approach of software development. The course provides an understanding of software processes, development models, requirement analysis, software design, testing and maintenance. It also develops the ability to understand and document software requirements for simple software projects.			
Course Outcomes			
<i>After successful completion of this course, students will be able to:</i>			
CO1:	Describe the fundamental concepts, characteristics and importance of Software Engineering.		
CO2:	Compare different software development life cycle models and identify their suitable applications.		
CO3:	Analyze user requirements and prepare a basic Software Requirements Specification (SRS).		
CO4:	Apply fundamental software design and modeling techniques to represent a software system.		
CO5:	Explain software testing, maintenance and quality-related activities involved in the software life cycle.		

Pre-Requisite	Basic knowledge of computer applications, programming fundamentals and software development concepts.	No Of Lectures:
<u>Unit – 1</u>	Fundamentals of Software Engineering and Development Processes • Introduction to Software Engineering • Need and Importance of Software Engineering • Characteristics of Good Software • Software Development Process • Software Development Life Cycle (SDLC) • Software Process Activities • Overview of Software Development Models: ○ Waterfall Model ○ Prototype Model ○ Spiral Model ○ Incremental Model ○ Agile Model • Comparison of Different SDLC Models • Introduction to Agile Development • Basic Agile Principles and Practices • Software Engineering for Web and Application Development	10

<u>Unit – 2</u>	Software Requirements and Analysis Requirements Engineering • Introduction to Software Requirements • Importance of Requirements • Types of Requirements: ◦ Functional Requirements ◦ Non-Functional Requirements • Requirement Elicitation Techniques ◦ Interviews ◦ Questionnaires ◦ Observation ◦ Discussions • Requirement Analysis and Validation • Feasibility Study: ◦ Technical Feasibility ◦ Economic Feasibility ◦ Operational Feasibility ◦ Schedule Feasibility Software Requirements Specification • Introduction to SRS • Purpose and Importance of SRS • Structure and Contents of an SRS • Characteristics of a Good SRS • Basic Requirement Documentation • Introduction to Use Case and User Stories	10
<u>UNIT -3</u>	Software Design, Testing and Maintenance Software Design • Introduction to Software Design • Design Principles • Modular Design • Cohesion and Coupling – Basic Concepts • Introduction to UML • Use Case Diagram • Class Diagram • Activity Diagram • Basic Data Flow Diagram (DFD) Software Testing • Introduction to Software Testing • Need and Objectives of Testing • Verification and Validation • Levels of Testing: ◦ Unit Testing ◦ Integration Testing ◦ System Testing ◦ Acceptance Testing • Introduction to Black Box and White Box Testing Software Maintenance • Introduction to Software Maintenance • Types of Maintenance: ◦ Corrective	10

	○ Adaptive ○ Perfective ○ Preventive • Maintenance Process • Maintenance Cost • Introduction to Legacy Systems • Basic Concept of Reverse Engineering	
Suggested Textbooks 1. Roger S. Pressman and Bruce R. Maxim, <i>Software Engineering: A Practitioner's Approach</i>, McGraw Hill. 2. Ian Sommerville, <i>Software Engineering</i>, Pearson. Additional / Reference Books 1. Pankaj Jalote, <i>An Integrated Approach to Software Engineering</i>, Narosa Publishing House. 2. Waman S. Jawadekar, <i>Software Engineering: Principles and Practice</i>, McGraw Hill. 3. Rajib Mall, <i>Fundamentals of Software Engineering</i>, PHI Learning.		

Subject Title	JAVA Programming Lab		
Subject Ref No	BCM503P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this practical course is to provide hands-on experience in Java programming and enable students to develop simple programs using fundamental programming and object-oriented concepts. The course focuses on developing programming logic, problem-solving skills and practical understanding through Java programming exercises.			
Course Outcomes			
<i>After successful completion of this practical course, students will be able to:</i>			
CO1:	Write, compile and execute basic Java programs using variables, data types, operators, input and output statements.		
CO2:	Apply decision-making, looping, arrays and string operations to solve basic programming problems.		
CO3:	Develop Java programs using methods, classes, objects, constructors and basic object-oriented programming concepts.		
CO4:	Implement basic inheritance, method overriding and interfaces in simple Java applications		
CO5:	Apply exception handling, packages and basic file handling techniques in Java programs.		

Unit -I	Java Fundamentals 1) Write a Java program to display “Hello World” and demonstrate the basic structure of a Java program. 2) Write a Java program to demonstrate variables, constants and different data types. 3) Write a Java program to demonstrate type casting in Java. 4) Write a Java program to perform arithmetic, relational and logical operations on two numbers. 5) Write a Java program to accept and display student details using Scanner class. 6) Write a Java program to check whether a number is positive, negative or zero using if-else. 7) Write a Java program to check whether a number is even or odd and find the largest of two numbers. 8) Write a Java program to find the largest of three numbers using nested if-else. 9) Write a Java program to create a simple calculator using switch-case. 10) Write a Java program to demonstrate for, while and do-while loops. 11) Write a Java program to find the factorial of a number and generate its multiplication table. 12) Write a Java program to check whether a given number is prime and
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	demonstrate the use of break and continue.
Unit II –	Arrays, Strings, Methods and OOP 13. Write a Java program to accept and display elements of a one-dimensional array. 14. Write a Java program to find the sum, average, largest and smallest element in an array. 15. Write a Java program to perform addition of two matrices using two-dimensional arrays. 16. Write a Java program to demonstrate String creation and commonly used String methods. 17. Write a Java program to check whether a given string is a palindrome. 18. Write a Java program to count the vowels, consonants, digits and spaces in a given string. 19. Write a Java program to create and use a user-defined method with parameters and return value. 20. Write a Java program to demonstrate method overloading. 21. Write a Java program to demonstrate the use of a static method and static variable. 22. Write a Java program to create a student class and objects with suitable data members and methods. 23. Write a Java program to demonstrate default and parameterized constructors and the use of this keyword. 24. Write a Java program to demonstrate encapsulation using private data members, getter and setter methods. 25. Write a Java program to demonstrate single inheritance and the use of super keyword. 26. Write a Java program to demonstrate method overriding. 27. Write a Java program to create and implement an interface.
Unit III –	Exception Handling, Packages and File Handling 28. Write a Java program to handle division by zero using try-catch. 29. Write a Java program to demonstrate multiple catch blocks and finally block. 30. Write a Java program to create and use a user-defined package and perform basic file handling to write and read data from a text file.

Subject Title	Software Engineering Lab		
Subject Ref No	BCM504P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this practical course is to provide students with hands-on experience in applying software engineering techniques to simple software projects. The course focuses on requirement collection, feasibility analysis, SRS preparation, software modeling, test case design and basic maintenance activities.			
Course Outcomes			
<i>After successful completion of this practical course, students will be able to:</i>			
CO1:	Identify software requirements, stakeholders and suitable software development processes for simple projects.		
CO2:	Prepare basic feasibility studies and Software Requirements Specification (SRS) documents for a given software system.		
CO3:	Develop software models using Use Case, Class, Activity and Data Flow Diagrams.		
CO4:	Design basic test cases using appropriate software testing techniques and evaluate software functionality.		
CO5:	Identify suitable software maintenance activities and prepare basic maintenance documentation for software systems.		

Unit -1	Software Engineering Fundamentals & SDLC 1. Study and explain the characteristics of good software with suitable real-life examples. 2. Identify the software engineering activities involved in developing a simple software application. 3. For a given software project, identify the major phases of SDLC and describe the activities performed in each phase. 4. Prepare a simple Waterfall Model for a Student Result Management System and explain each phase. 5. Prepare a Prototype Model for an Online Food Ordering System and identify the activities performed during prototyping. 6. Prepare a Spiral Model for a software project and identify the major activities performed in each iteration. 7. Compare Waterfall, Prototype, Spiral and Incremental Models for a given software project and select the most suitable model. 8. Prepare a simple Agile development plan for a small software project by identifying product backlog, user stories and iterations.
Unit -2	Requirements Engineering & SRS 9. Select a software project and identify its stakeholders and user requirements. 10. Collect requirements for a simple software system using interview and questionnaire techniques. 11. Prepare a list of functional and non-functional requirements for an Online

	Shopping System. 12. Prepare a Feasibility Study Report for a proposed software project covering technical, economic, and operational and schedule feasibility. 13. Analyze the collected requirements and identify missing, ambiguous or conflicting requirements. 14. Write a Software Requirements Specification (SRS) for a simple software project. 15. Prepare the functional requirements, non-functional requirements, assumptions and constraints for the selected project. 16. Develop use cases and user stories for a simple application such as Online Book Store or Student Management System.
Unit -3	Software Design, UML, DFD & Testing 17. Identify the major modules/components of a selected software project and prepare a modular design. 18. Explain and identify cohesion and coupling in a simple software system with suitable examples. 19. Draw a Use Case Diagram for an Online Shopping System. 20. Draw a Class Diagram for a Student Management System. 21. Draw an Activity Diagram for an Online Examination System. 22. Draw a Data Flow Diagram (DFD – Level 0 and Level 1) for a simple software application. 23. Prepare a software test plan for a selected application and identify test cases for its major functions. 24. Design test cases using Black Box Testing and White Box Testing techniques for a simple application. 25. Prepare a Software Maintenance Report for an existing application, identifying possible corrective, adaptive, perfective and preventive maintenance activities.

DSE: Discipline Specific Elective (Choose any one from pool of courses)

Subject Title	A) C#		
Subject Ref No	BCM505T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to develop a strong foundation in C# programming and introduce students to the .NET programming environment. The course focuses on programming logic, object-oriented programming and commonly used C# features required for developing simple and structured applications. Students will learn to design, implement and debug programs using C#.			
Course Outcomes			
<i>After successful completion of this course, students will be able to:</i>			
CO1:	Explain the architecture of C# and the .NET environment and construct basic C# programs.		
CO2:	Apply programming constructs, arrays, strings and methods to develop solutions for computational problems.		
CO3:	Design C# programs using classes, objects, constructors and fundamental object-oriented principles.		
CO4:	Implement inheritance, interfaces, polymorphism and exception handling in C# applications.		
CO5:	Utilize collections, delegates and basic file handling to develop structured C# programs.		

Pre-Requisite	Basic knowledge of computer fundamentals and programming concepts.	No Of Lectures:
Unit I	C# Fundamentals and Programming Constructs • Introduction to C# and its Applications • Features of C# • Overview of .NET Platform • Common Language Runtime (CLR) • C# Program Structure • Compilation and Execution of C# Programs • Variables, Constants and Data Types • Type Conversion and Type Casting • Operators in C# • Console Input and Output • Decision-Making Statements ◦ if ◦ if-else ◦ Nested if ◦ switch • Looping Statements	10

	○ for ○ while ○ do-while • break and continue • Arrays ○ One-Dimensional Arrays ○ Two-Dimensional Arrays • Strings and Common String Operations	
Unit II	Methods and Object-Oriented Programming Methods • Defining and Calling Methods • Parameters and Return Values • Method Overloading • ref and out Parameters – Basic Concept • Static Members Object-Oriented Programming • Introduction to OOP in C# • Classes and Objects • Fields, Properties and Methods • Constructors • Default and Parameterized Constructors • this Keyword • Access Modifiers • Encapsulation • Inheritance • Types of Inheritance – Basic Understanding • Method Overloading and Method Overriding • Polymorphism • base Keyword	10
Unit III	Interfaces, Collections, Exceptions and File Handling Interfaces and Abstract Classes • Introduction to Abstraction • Abstract Classes and Abstract Methods • Interfaces • Implementing Interfaces • Difference between Abstract Class and Interface Collections • Introduction to Collections • ArrayList • List • Dictionary • Basic Collection Operations • Iterating through Collections Exception Handling • Introduction to Exceptions • Common Runtime Exceptions • try, catch and finally • Multiple Catch Blocks • throw Keyword • User-Defined Exceptions – Basic Concept	10

	File Handling • Introduction to File Handling • Creating and Opening Files • Reading from Files • Writing to Files • Basic File and Directory Operations	
Suggested Textbooks 1. E. Balagurusamy, <i>Programming in C#</i>, McGraw Hill Education. 2. Jesse Liberty, <i>Programming C#</i>, O'Reilly Media. Additional / Reference Books 1. Herbert Schildt, <i>C#: The Complete Reference</i>, McGraw Hill. 2. Joseph Albahari and Ben Albahari, <i>C# 12 in a Nutshell</i>, O'Reilly Media. 3. Andrew Troelsen and Philip Japikse, <i>Pro C# and .NET</i>, Apress.		

Subject Title	B)Web Development Using PHP		
Subject Ref No	BCM505T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to PHP-based web development . The course focuses on PHP programming, form handling, database connectivity and development of simple dynamic web applications using PHP and MySQL.			
Course Outcomes			
<i>After successful completion of the course, students will be able to:</i>			
CO 1	Develop PHP programs using variables, operators, conditions, loops, arrays strings and function.		
CO 2	Create dynamic web pages using PHP, HTML, JavaScript and form handling techniques.		
CO 3	Connect PHP applications with MySQL and perform basic database operations such as insert, retrieve, update and delete..		
CO 4	Develop and test simple database-driven web applications using PHP and MySQL.		

Pre-Requisite	Students should have basic knowledge of HTML and JavaScript.	Total Lectures
Unit 1	PHP Fundamentals • Introduction to PHP • PHP Syntax and Variables • Data Types and Operators • Conditional Statements • Loops • Arrays • Strings • Functions	10
Unit 2	Form Handling and Web Programming • HTML Forms with PHP • GET and POST Methods • Handling User Input • Super Global Variables • Form Validation • Sessions and Cookies • File Handling • PHP with HTML and JavaScript • Basic Error Handling	10
Unit 3	PHP and MySQL • Introduction to MySQL • Database and Table Creation • Connecting PHP with MySQL • Executing SQL Queries	10

	• Insert Records • Retrieve Records • Update Records • Delete Records • Basic CRUD Application • Development of a Simple Database-Driven Web Application	
Reference Books 1) PHP and MySQL Web Development – Luke Welling and Laura Thomson 2) PHP & MySQL for Dynamic Web Sites – Larry Ullman 3) Beginning PHP and MySQL: From Novice to Professional – W. Jason Gilmore 4) PHP Cookbook – David Sklar and Adam Trachtenberg 5) Learning PHP, MySQL & JavaScript – Robin Nixon		

Subject Title	A) C#		
Subject Ref No	BCM506P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this practical course is to develop programming and problem-solving skills using C#. Students will apply C# and OOP concepts to design, implement and debug simple, structured applications.			
Course Outcomes			
<i>After successful completion of the practical course, students will be able to:</i>			
CO1:	Develop basic C# programs using variables, data types, operators, input/output and control structures.		
CO2:	Apply arrays, strings and methods to solve programming and computational problems.		
CO3:	Design object-oriented programs using classes, objects, constructors, properties, encapsulation and inheritance.		
CO4:	Implement polymorphism, abstraction, interfaces and exception handling in C# applications.		
CO4:	Utilize collections and file-handling techniques to develop structured and application-oriented C# programs		

Unit I	C# Fundamentals and Programming Constructs 1. Write a C# program to accept two numbers and perform arithmetic, relational and logical operations. 2. Write a C# program to check whether a given number is positive, negative or zero using if-else. 3. Write a C# program to find the largest among three numbers using nested if. 4. Write a menu-driven calculator program using the switch statement. 5. Write a C# program to check whether a given number is prime. 6. Write a C# program to calculate the factorial of a given number using a loop. 7. Write a C# program to reverse a number and check whether it is a palindrome. 8. Write a C# program to generate the multiplication table of a given number. 9. Write a C# program to accept elements of a one-dimensional array and find the largest, smallest and average values. 10. Write a C# program to add two matrices using two-dimensional arrays. 11. Write a C# program to count vowels, consonants, digits and spaces in a given string. 12. Write a C# program to reverse a string and check whether it is a palindrome.
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Unit II	Methods and Object-Oriented Programming 13. Write a C# program using a user-defined method to calculate the area of a circle, rectangle and triangle. 14. Write a C# program to demonstrate method overloading for calculating the area of different geometric shapes. 15. Write a C# program to demonstrate the use of ref and out parameters. 16. Create a Student class containing fields, properties and methods to accept and display student information. 17. Create an Employee class using default and parameterized constructors and demonstrate their use. 18. Write a C# program to demonstrate the use of this keyword. 19. Create a BankAccount class to demonstrate encapsulation using private fields and public methods/properties. 20. Create a base class Person and derived class Student to demonstrate inheritance. 21. Write a C# program to demonstrate method overriding using a base class and derived class. 22. Write a C# program to demonstrate runtime polymorphism using method overriding. 23. Create a base class Shape and derived classes Circle and Rectangle to calculate their respective areas.
Unit III	Abstraction, Interfaces, Collections and Exception Handling 24. Create an abstract class Shape with an abstract method CalculateArea() and implement it using derived classes. 25. Define an interface IPayment with a method MakePayment() and implement it using two different classes. 26. Write a C# program to demonstrate the use of the base keyword in inheritance. 27. Write a C# program using List<T> to store student marks and find the highest, lowest and average marks. 28. Write a C# program using Dictionary<TKey,TValue> to store student roll numbers and names and search for a student. 29. Write a C# program to handle division-by-zero and invalid input using try-catch-finally. 30. Write a C# program using the throw keyword to validate student marks and generate an exception for invalid marks. File Handling and Application-Oriented Practical 31. Write a C# program to create a text file, write student information into the file and read the information from the file. 32. Develop simple Student Record Management Application using classes, List<T>, exception handling and file handling to add, display and search student records.

Subject Title	B)Web Development Using PHP-Lab		
Subject Ref No	BCM505P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective The objective of this practical course is to develop students' programming skills using PHP and introduce them to form handling, database connectivity and basic dynamic web application development using PHP and MySQL. Course Outcomes <i>At the end of the practical course, students will be able to:</i>			
CO 1	Develop PHP programs using variables, operators, conditions, loops, arrays strings and function.		
CO 2	Create dynamic web pages using PHP, HTML, JavaScript and form handling techniques.		
CO 3	Connect PHP applications with MySQL and perform basic database operations such as insert, retrieve, update and delete..		
CO 4	Develop and test simple database-driven web applications using PHP and MySQL.		

Unit I –	PHP Programming Fundamentals 1. Write a PHP program to display a welcome message and basic information. 2. Write a PHP program to perform arithmetic operations using variables. 3. Write a PHP program to find the largest of two numbers using conditional statements. Write a PHP program to check whether a number is even or odd. 4. Write a PHP program to calculate the grade of a student based on marks. 5. Write a PHP program to display numbers from 1 to 10 using a loop. 6. Write a PHP program to find the sum of first N natural numbers. 7. Write a PHP program to generate a multiplication table of a given number. 8. Write a PHP program to find the factorial of a number. 9. Write a PHP program to find the largest and smallest element in an array. 10. Write a PHP program to calculate the average of elements in an array. 11. Write a PHP program to perform basic string operations such as length, reverse and concatenation. 12. Write a PHP program to count the number of vowels in a given string. 13. Write a PHP program using a user-defined function to calculate the area of a circle.
Unit II	Form Handling and Web Programming 14. Create an HTML form to accept student details and display the submitted data using PHP. 15. Create a PHP program to demonstrate the use of GET method.

	16. Create a PHP program to demonstrate the use of POST method. 17. Create a student registration form using HTML and PHP. 18. Create a PHP program to validate name, email and mobile number entered through a form. 19. Create a login form using PHP and display an appropriate message for valid and invalid input. 20. Create a PHP program to demonstrate the use of super global variables. 21. Create a PHP program to create and access a session. 22. Create a PHP program to create, read and delete a cookie. 23. Create a PHP program to upload a file using an HTML form. 24. Create a dynamic web page using HTML, JavaScript and PHP.
Unit III	PHP and MySQL 25. Create a MySQL database and table for storing student information using PHP. 26. Write a PHP program to establish a connection with a MySQL database. 27. Write a PHP program to insert student records into a MySQL table. 28. Write a PHP program to retrieve and display records from a MySQL table. 29. Write a PHP program to update a selected record in a MySQL table. 30. Write a PHP program to delete a selected record from a MySQL table. 31. Develop a simple Student Record Management System using PHP and MySQL with basic CRUD operations.

Minor (Choose any two from pool of courses) It is from different discipline of the same faculty -

MN-5

Subject Title	A] Digital Marketing		
Subject Ref No	BCM507T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to digital marketing concepts, online promotion, customer engagement and digital campaign performance in a modern business environment.			
Course Outcomes			
CO 1	Explain the role of digital marketing in creating customer value and supporting modern business activities.		
CO 2	Use appropriate digital promotion and communication methods for different business situations.		
CO 3	Evaluate digital campaigns using customer engagement, conversion and performance indicators.		

Unit -I	Digital Business and Online Marketing Environment • Digital Business and Marketing: Concept • Role of Digital Marketing in Modern Business • Digital Customer Touchpoints • Online Market Segmentation and Target Audience • Customer Buying Journey in Digital Environment • Digital Value Proposition • Online Reputation and Brand Presence • Digital Marketing Mix • Emerging Trends in Digital Marketing	10
Unit -II	Digital Promotion and Customer Communication • Website as a Business Communication Tool • Landing Pages and Call-to-Action • Search Marketing: Organic and Paid Search • Social Media Platforms for Business • Social Media Content and Engagement • Email Campaign Planning • Influencer and Affiliate Marketing: Introduction	10

	• Video and Visual Marketing • Online Reviews and Customer Feedback • Integrated Digital Promotion	
Unit -III	Digital Campaign Management and Measurement • Digital Marketing Campaign: Planning and Execution • Setting Campaign Objectives • Audience Targeting and Customer Segmentation • Digital Budgeting and Resource Allocation • Conversion and Lead Generation • Customer Engagement and Retention • Introduction to Digital Analytics • Traffic, Reach, Engagement and Conversion Metrics • Campaign ROI and Performance Evaluation • Privacy, Transparency and Responsible Digital Marketing	10
Suggested Readings 1. Dave Chaffey & Fiona Ellis-Chadwick – Digital Marketing: Strategy, Implementation and Practice 2. Annmarie Hanlon – Digital Marketing: Strategic Planning & Integration 3. Ryan Deiss & Russ Henneberry – Digital Marketing for Dummies 4. Damian Ryan – Understanding Digital Marketing 5. Simon Kingsnorth – Digital Marketing Strategy: An Integrated Approach to Online Marketing Reference Resources 1. Google Skillshop – Digital Marketing and Analytics Learning Resources 2. Meta Blueprint – Digital Marketing Learning Resources 3. HubSpot Academy – Digital Marketing Resources 4. Google Analytics Academy / Analytics Learning Resources 5. NPTEL – Marketing and Digital Business Course Materials		

Subject Title	B Image Processing		
Subject Ref No	BCM507T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to the basic concepts and techniques of digital image processing. The course focuses on image enhancement, transformation, analysis and practical applications of images in business and digital environments.			
Course Outcomes			
CO 1	Explain the fundamental concepts, components and applications of digital image processing.		
CO 2	Apply basic image processing techniques for enhancement and manipulation of digital images.		
CO 3	Analyze image processing methods and their applications in different business and digital contexts.		

Unit I	Fundamentals of Digital Images • Introduction to Digital Image Processing • Digital Images and Their Characteristics • Applications of Image Processing • Image Representation and Pixels • Image Size, Resolution and Aspect Ratio • Colour Models: RGB, Grayscale and Basic Colour Concepts • Image Formats and Compression • Image Acquisition and Storage • Introduction to Image Processing Software and Tools	
Unit II	Image Enhancement and Transformation • Need for Image Enhancement • Brightness and Contrast Adjustment • Image Resizing and Cropping • Image Rotation and Flipping • Grayscale Conversion • Image Smoothing and Sharpening • Noise and Basic Noise Reduction • Histogram and Histogram-Based Enhancement • Basic Image Filtering • Introduction to Image Segmentation	
Unit III	Image Analysis and Applications • Image Features and Basic Feature Extraction	

	• Edge Detection – Fundamentals • Object Detection – Basic Concepts • Image Classification – Introduction • Optical Character Recognition (OCR) – Overview • Image Processing in Business Applications • Applications in Document and Digital Media Management • Image Processing in E-Commerce and Marketing • Introduction to Computer Vision • Case Study: Image-Based Business Application	
Suggested Readings • Rafael C. Gonzalez & Richard E. Woods – Digital Image Processing • Anil K. Jain – Fundamentals of Digital Image Processing • William K. Pratt – Digital Image Processing • Wilhelm Burger & Mark J. Burge – Digital Image Processing: An Algorithmic Introduction Reference Resources • OpenCV Documentation – Image Processing Resources • MATLAB Image Processing Documentation • Python OpenCV Learning Resources • NPTEL – Image Processing Course Materials • SWAYAM – Image Processing Learning Resources		

Subject Title	C Cyber Security-II		
Subject Ref No	BCM507T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective The objective of this course is to develop an understanding of advanced cyber security practices, risk management and security controls. The course focuses on protecting digital assets, identifying security risks and applying suitable security measures in organizational environments.			
Course Outcomes			
CO 1	Explain advanced cyber security concepts, security risks and organizational security practices.		
CO 2	Apply appropriate security controls and safe practices to protect digital systems and information.		
CO 3	Analyze security incidents and evaluate suitable measures for reducing cyber risks.		

Pre-Requisite		No Of Lectures
Unit I	Cyber Risk and Security Management • Information Security and Cyber Security Management • Identification of Digital Assets and Security Risks • Threat, Vulnerability and Risk Assessment • Common Security Vulnerabilities • Security Controls and Countermeasures • Access Control and User Privileges • Multi-Factor Authentication • Identity and Access Management • Security Policies and Organizational Guidelines • Cyber Security Risk Management	10
Unit II	System, Network and Data Protection • Secure Network Architecture • Firewalls and Proxy Servers • Intrusion Detection and Prevention Systems • Virtual Private Network (VPN) • Secure Web and Application Practices • Data Protection and Backup Strategies • Data Encryption in Business Applications • Secure Cloud Computing Practices • Endpoint Protection and Device Security • Security Monitoring and Logging	10
Unit III	Incident Response and Emerging Security Practices • Cyber Security Incident and Incident Lifecycle	10

	• Incident Detection and Reporting • Incident Response and Recovery • Digital Evidence: Basic Concepts • Introduction to Digital Forensics • Security Auditing and Vulnerability Assessment • Business Continuity and Disaster Recovery • Security Awareness in Organizations • Emerging Cyber Security Challenges • Case Studies of Major Cyber Security Incidents	
Suggested Readings • William Stallings – Effective Cybersecurity: A Guide to Using Best Practices and Standards • Joseph Steinberg – Cyber security for Dummies • Charles J. Brooks – Cyber security Essentials • Mark Rhodes-Ousley – Information Security: The Complete Reference Reference Resources • NIST Cybersecurity Framework • OWASP – Web Application Security Resources • CERT-In – Cyber Security Guidelines and Advisories • NPTEL – Cyber Security Course Materials • SWAYAM – Cyber Security Learning Resources		

MN-6

Subject Title	A] Performance Management System		
Subject Ref No	BCM508T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to develop an understanding of performance management, performance measurement, appraisal and employee development practices in organizations.			
Course Outcomes			
CO 1	Explain the concepts, objectives and importance of performance management in organizations.		
CO 2	. Apply suitable performance planning, measurement and appraisal techniques in workplace situations.		
CO 3	Analyze employee performance and recommend suitable feedback and improvement strategies.		

Pre-Requisite	Basic knowledge of Human Resource Management and Organizational Behaviour.	Total Lectures
Unit I	Fundamentals of Performance Management • Meaning, concept and scope of Performance Management • Objectives and importance of Performance Management • Performance Management System (PMS) and its key components • Role of managers and employees in performance management • Linking individual performance with organizational goals • Performance expectations and performance standards • Goal setting and SMART objectives • Key Performance Indicators (KPIs) and Key Result Areas (KRAs) • Competency-based performance management • Performance management cycle	10
Unit II	Performance Planning, Measurement and Appraisal • Performance planning: concept and process • Setting individual and team performance goals • Methods of performance measurement • Productivity and performance indicators • Performance documentation and records • Meaning, purpose and process of performance appraisal • Traditional appraisal methods: ○ Ranking Method ○ Paired Comparison	10

	○ Graphic Rating Scale ○ Forced Distribution • Modern appraisal approaches: ○ 360-Degree Feedback ○ Behaviourally Anchored Rating Scale (BARS) ○ Assessment Centre • Selection of suitable appraisal methods	
Unit III	Feedback, Employee Development and Performance Improvement • Performance review and review meetings • Importance and methods of effective feedback • Coaching and mentoring for performance improvement • Employee counselling • Training and development for performance enhancement • Identification of performance gaps • Performance Improvement Plan (PIP) • Managing under-performance • Employee development through performance feedback • Strategies for improving individual and team performance • Linking employee performance with organizational effectiveness • Case Study: Performance improvement in an organization	10
Suggested Readings 1. Herman Aguinis – <i>Performance Management</i> 2. Michael Armstrong – <i>Armstrong's Handbook of Performance Management</i> 3. T. V. Rao – <i>Performance Management and Appraisal Systems</i> 4. Kandula – <i>Performance Management</i> Reference Resources • SHRM – Performance Management Resources • CIPD – Performance Management Resources • NPTEL – Human Resource Management Courses • SWAYAM – Human Resource Management Courses		

Subject Title	B] Basic Banking & Indian Financial System		
Subject Reference No	BCM508T	No of Credit	2
		No of period per week	2
		Assignment / Sessional	20
		Semester Examination	30
Course Objectives			
1	To understand the structure, components and functions of the Indian Financial System and Banking System in India.		
2	To apply knowledge of banking operations, account opening procedures, KYC requirements and digital payment systems in practical situations.		
3	To analyze recent developments in digital banking, financial inclusion, FinTech innovations and cyber security issues in the banking sector.		
4	To evaluate the benefits and risks associated with digital banking services and emerging financial technologies.		
Pre-requisite: Basic knowledge of commerce, economics and digital payment applications.			
Unit	Content		Number of Lectures required
Unit I	Indian Financial System and Banking Structure Components of Indian Financial System – Financial Institutions, Financial Markets, Financial Instruments and Financial Services Structure of Indian Banking System, Reserve Bank of India and Commercial Banks, Types of Banks in India		10
Unit II	Banking Operations and Financial Markets: Types of Bank Accounts and Deposits, Basic Banking Services and Loans, KYC and Account Opening Procedure, Money Market and Capital Market, Stock Exchange and SEBI, Financial Instruments – Shares, Bonds and Mutual Funds		10
Unit III	Digital Banking and Emerging Trends:Internet and Mobile Banking , Digital Payment Systems – UPI, NEFT, RTGS and IMPS , Debit Cards, Credit Cards and ATM Services , Financial Inclusion in India , FinTech and Digital Banking , Cyber Security Awareness in Banking		10

Note : Relevant case examples and information to recent web sources to be discussed in the class.

Books and references:

1. Khan, M. Y., & Jain, P. K. (2022). *Indian financial system* (11th ed.). McGraw Hill Education.
2. Indian Institute of Banking and Finance. (2023). *Principles and practices of banking* (Revised ed.). Macmillan Education India.
3. Pathak, B. V. (2021). *The Indian financial system: Markets, institutions and services* (6th ed.). Pearson Education.
4. Gordon, E., & Natarajan, K. (2023). *Banking theory, law and practice* (Latest revised ed.). Himalaya Publishing House.

5. Bhole, L. M., & Mahakud, J. (2020). *Financial institutions and markets: Structure, growth and innovations* (7th ed.). McGraw Hill Education.
6. Suresh, P., & Paul, J. (2022). *Management of banking and financial services* (5th ed.). Pearson Education.
7. Mishkin, F. S., & Eakins, S. G. (2023). *Financial markets and institutions* (10th ed.). Pearson.
8. Chandra, P. (2022). *Investment analysis and portfolio management* (6th ed.). McGraw Hill Education.

Subject Title	C Tourism Management		
Subject Ref No	BCM508T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to introduce students to tourism marketing, consumer behaviour, marketing strategies and digital practices in the tourism industry.			
Course Outcomes			
CO 1	Explain the basic concepts of tourism, tourism products and tourist behaviour.		
CO 2	Apply suitable marketing strategies for tourism products and destinations.		
CO 3	Analyze digital, sustainable and emerging marketing practices in tourism.		

Pre-Requisite	Basic knowledge of Business Management and Marketing concepts.	Total Lectures
Unit I	Tourism Marketing and Consumer Behaviour • Meaning, nature and scope of tourism • Types of tourism: Domestic, International, Medical, Eco, Adventure, Cultural and Religious • Components of tourism industry • Concept and importance of tourism marketing • Tourism marketing environment • Tourism products: meaning, characteristics and classification • Tourist motivation and decision-making • Consumer behaviour in tourism • Market segmentation, targeting and positioning (STP) • Customer satisfaction and tourism experience	10
Unit II	Tourism Marketing Strategies • Tourism Marketing Mix – 7Ps • Tourism product planning and development • Pricing strategies in tourism • Distribution channels and travel intermediaries • Promotion of tourism products and destinations • Destination branding • Integrated Marketing Communication (IMC) • Public relations and event-based promotion • Online Travel Agencies (OTAs) • Customer relationship and online reputation management	10
Unit III	Digital and Sustainable Tourism Marketing • Digital marketing in tourism • Social media marketing • Content and influencer marketing • SEO and SEM for tourism businesses • Mobile marketing and online customer engagement	10

	• Sustainable and responsible tourism • Eco-tourism and community participation • Green marketing and smart tourism destinations • Tourism entrepreneurship and start-ups • Emerging trends: AI, Virtual Reality, personalization and data analytics	
Text Books 1. Manjula Chaudhary – <i>Tourism Marketing</i> 2. Sunetra Roday, Archana Biwal & Vandana Joshi – <i>Tourism Operations and Management</i> Reference Books 1. Biswanath Ghosh – <i>Tourism and Travel Management</i> 2. Md. Abu Barkat Ali – <i>Travel and Tourism Management</i> 3. Rajat Gupta et al. – <i>Hospitality and Tourism</i>		

VSC: Vocational Skill Courses (Choose any one)

Subject Title	A] Cyber Security And Law -II		
Subject Ref No	BCM509T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
1. Develop understanding of advanced cyber security practices and risk management. 2. Introduce students to privacy, data protection and digital security requirements. 3. Explain legal issues related to digital transactions, intellectual property and online activities. 4. Develop awareness of cyber security compliance and incident handling..			
Course Outcomes			
CO 1	Explain cyber security risks, privacy requirements and organizational security practices.		
CO 2	Apply suitable measures for protecting digital information and business systems.		
CO 3	Analyze cyber incidents, digital evidence and legal issues in online activities.		
CO4	Evaluate data protection, cyber law and compliance requirements in different situations.		

Pre-Requisite	Basic knowledge of Business Management and Marketing concepts.	Total Lectures
Unit I	Cyber Risk, Privacy and Information Protection • Cyber security risk and threat assessment • Vulnerability identification and risk management • Security controls and risk mitigation • Identity and Access Management (IAM) • Multi-Factor Authentication (MFA) • Information and data classification • Data protection and secure data handling • Data privacy principles • Data backup and recovery practices • Organizational cyber security policies	10
Unit II	Cyber Security Operations and Incident Management • Security monitoring and log management • Firewall and intrusion detection concepts • Endpoint and device protection • Secure cloud and remote working practices • Cyber security incident identification • Incident response process • Cyber incident reporting • Introduction to digital forensics	10

	• Digital evidence and its preservation • Business continuity and disaster recovery	
Unit III	Cyber Law, Digital Rights and Compliance • Cyber law and its role in the digital environment • Legal issues in online transactions • Electronic records and electronic contracts • Digital signatures and their legal aspects • Data privacy and protection laws • Intellectual Property Rights in the digital environment • Copyright and trademark issues in cyberspace • Cyber defamation and online content • Legal responsibilities of organizations and users • Cyber law and security case studies	10
Text Books 1. William Stallings – <i>Effective Cybersecurity: A Guide to Using Best Practices and Standards</i> 2. Charles J. Brooks, Christopher Grow, Philip Craig & Donald Short – <i>Cybersecurity Essentials</i> 3. Pavan Duggal – <i>Cyberlaw: The Indian Perspective</i> Reference Books 1. Mark Rhodes-Ousley – <i>Information Security: The Complete Reference</i> 2. Joseph Steinberg – <i>Cybersecurity For Dummies</i> 3. Information Technology Act, 2000 – Government of India Reference Resources • CERT-In • Ministry of Electronics and Information Technology (MeitY) • NIST Cybersecurity Framework • OWASP		

Subject Title	BJ Entrepreneurship		
Subject Ref No	BCM509T	No Of Credits:	2
		No of Periods /Week	30/2
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this course is to develop an understanding of entrepreneurship and the entrepreneurial process among students. The course focuses on identifying business opportunities, developing innovative business ideas, preparing basic business plans, and understanding the financial and marketing aspects of a new venture. It also introduces students to digital entrepreneurship, startup development, government support, intellectual property rights, and sustainable business practices.			
Course Outcomes			
CO 1	Explain the basic concepts, characteristics and process of entrepreneurship.		
CO 2	Identify business opportunities and develop suitable business ideas.		
CO 3	Prepare basic components of a business plan and business model.		
CO4	Describe the financial, marketing, legal and digital aspects of a new venture.		

Pre-Requisite		Total Lectures
Unit I	Fundamentals of Entrepreneurship • Meaning, concept and nature of entrepreneurship • Importance and role of entrepreneurship • Characteristics and competencies of an entrepreneur • Types of entrepreneurs • Entrepreneurial mindset and motivation • Entrepreneurship and economic development • Entrepreneurial process • Creativity and innovation in entrepreneurship • Identification of business opportunities • Sources of business ideas • Opportunity assessment and feasibility	10
Unit II	Business Planning and New Venture Creation • Meaning and importance of a business plan • Components of a business plan • Business model and value proposition • Market identification and customer analysis • Competitor analysis • Product and service planning • Basic pricing strategies • Marketing plan for a new venture • Sources of finance for new businesses • Basic financial planning and budgeting • Forms of business ownership	10

	• Steps involved in starting a new venture	
Unit III	Digital Entrepreneurship and Business Development • Digital entrepreneurship and its importance • E-commerce and online business models • Social media and digital marketing for entrepreneurs • Startup ecosystem and business incubation • Government support for entrepreneurship • MSMEs and entrepreneurship development • Intellectual Property Rights and entrepreneurship • Social and sustainable entrepreneurship • Business risks and risk management • Challenges faced by new entrepreneurs • Business growth and expansion strategies	10

Text Books

1. **Rajeev Roy** – *Entrepreneurship*, Fourth Edition, Oxford University Press. The current OUP listing identifies the fourth edition and provides textbook-linked student resources.
2. **Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd & Sabyasachi Sinha** – *Entrepreneurship*, 11th Edition, McGraw Hill Education. The book specifically covers the entrepreneurial process, business ideas, opportunities, legal issues and the Indian startup ecosystem.
3. **S. S. Khanka & C. B. Gupta** – *Entrepreneurship and Small Business Management*, 8th Revised Edition, Sultan Chand & Sons. Its contents include entrepreneurship, opportunity development, startups, incubation, finance, marketing, growth and legal framework.

Reference Books

1. **Donald F. Kuratko** – *Entrepreneurship: Theory, Process, Practice*, Cengage Learning.
2. **Jeffry A. Timmons & Stephen Spinelli** – *New Venture Creation: Entrepreneurship for the 21st Century*, McGraw Hill.
3. **Alexander Osterwalder & Yves Pigneur** – *Business Model Generation*, Wiley.
4. **Vasant Desai** – *Dynamics of Entrepreneurial Development and Management*, Himalaya Publishing House.
5. **C. B. Gupta** – *Entrepreneurship – Text and Cases*, Sultan Chand & Sons.

Subject Title	A] Cyber Security And Law –II Lab		
Subject Ref No	BCM510P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this practical course is to develop practical understanding of cyber security, data protection, incident handling and cyber law through basic security activities, case studies and applications.			
Course Outcomes			
After successful completion of this practical course, students will be able to:			
CO 1	Identify common cyber security risks, threats and vulnerabilities.		
CO 2	Apply basic security practices for data protection, access control and incident management.		
CO 3	Identify legal issues related to digital transactions, privacy and intellectual property.		
CO4	Analyze cyber security and cyber law case studies and suggest suitable preventive measures.		

Pre-Requisite		
Unit I	1. Identify common cyber threats and prepare a basic cyber risk assessment for an organization. 2. Prepare a vulnerability assessment report for a given computer system. 3. Create a risk management table for identified cyber security threats. 4. Demonstrate user access control by assigning different permissions to users. 5. Demonstrate Multi-Factor Authentication for a suitable online account. 6. Classify organizational data into different security levels. 7. Prepare guidelines for secure storage and sharing of confidential data. 8. Demonstrate the process of creating and restoring a data backup. 9. Prepare a basic cyber security policy for an organization. 10. Identify privacy risks in a given data handling scenario.	
Unit -II	11. Examine system logs and identify suspicious activities. 12. Demonstrate basic firewall rules for controlling network access. 13. Prepare an endpoint security checklist for a computer system. 14. Identify security risks associated with cloud-based services. 15. Prepare security guidelines for employees working remotely. 16. Analyze a given cyber security incident and identify its possible cause and impact.	

	17. Prepare a basic incident response plan for a cyber attack. 18. Prepare a cyber incident report based on a given case. 19. Identify different types of digital evidence from a given cybercrime case. 20. Prepare guidelines for preservation of digital evidence.	
Unit III	21. Prepare a basic business continuity plan for an organization. 22. Prepare a disaster recovery plan for a given cyber security situation. 23. Analyze a case related to online transactions and identify the legal issues. 24. Prepare a sample electronic contract and identify its important elements. 25. Demonstrate the creation and verification of a digital signature. 26. Analyze a case related to electronic records and digital transactions. 27. Identify data privacy issues from a given case study. 28. Analyze a copyright or trademark violation on a digital platform. 29. Analyze a cyber defamation case and identify the legal issues involved. 30. • Study a cyber security and law case and prepare a report covering the incident, security issue, legal issue and preventive measures .	

Subject Title	B Entrepreneurship-Lab		
Subject Ref No	BCM510P	No Of Credits:	2
		No of Periods /Week	60/4
		Assignment and Sessional Marks	20
		Semester Examination:	30
Course Objective			
The objective of this practical course is to develop students' ability to identify business opportunities, develop business ideas, prepare basic business plans and apply marketing, financial, and digital and risk-management concepts in the development of a new venture.			
Course Outcomes			
<i>After successful completion of this practical course, students will be able to</i>			
CO 1	Identify business opportunities and develop suitable business ideas.		
CO 2	Prepare basic business models, business plans and market analysis.		
CO 3	Apply basic marketing, financial and digital entrepreneurship concepts.		
CO4	Identify suitable legal, risk-management and growth measures for a new venture.		

Pre-Requisite	
Unit I	Fundamentals of Entrepreneurship 1. Identify a business opportunity based on a common problem faced by customers. 2. Develop a business idea to address an identified customer need. 3. Prepare a profile of a successful entrepreneur and identify important entrepreneurial qualities. 4. Identify the target customers for a selected business idea. 5. Conduct a basic feasibility analysis of a proposed business idea. 6. Prepare a SWOT analysis for a selected business idea. 7. Identify innovative features that can be added to an existing product or service.
Unit II	Business Planning and New Venture Creation 8. Prepare a basic business model for a selected business idea. 9. Prepare a Business Model Canvas for a proposed venture. 10. Identify the target market and prepare a basic customer profile. 11. Conduct a competitor analysis for a selected business. 12. Prepare a basic pricing and marketing plan for a selected product or service. 13. Prepare a basic startup budget and identify suitable sources of finance. 14. Prepare a basic business plan for a selected business idea.
Unit III	Digital Entrepreneurship and Business Development 15. Identify a suitable digital business model for a proposed venture. 16. Prepare a basic social media and digital marketing plan for a small business. 17. Identify suitable government support schemes and incubation opportunities for a proposed business.

	18. Identify suitable Intellectual Property protection for a proposed business idea. 19. Prepare a risk identification and mitigation plan for a new venture. 20. Prepare a basic growth and expansion plan for a small business.
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