

BCA (Bachelor of Computer Application)

Programme Outcomes:

PO-1: Understand and apply mathematical foundation, financial accounting and domain knowledge for the conceptualization of computing models from defined problems.

PO-2: Understand, analyze and develop computer programs in the areas related to algorithm, web design and IoT for efficient design of computer based system and the young professional for a range of computer organization, techniques of Computer Networking, Software Engineering, E-Commerce, Database management, Multimedia, Artificial Intelligence, Advance Java and Computer Applications. PO-3: Familiarity and practical competence with a broad range of programming language and open-source platforms. A project is a study of factual information for comprehending and applying the various concepts of the course into practice.

PO-4: Understand the progressive way for their future and also helps them to know the real purpose of their life. Develop sensitivity for the natural, physical and human resources in the environment. PO-5: Acquiring moral culture, communicative competency and potential job opportunities through learning the language subjects.

Program Specific Outcomes:

PSO-1. In order to enhance the programming skills of the young IT professionals, the program has introduced the concept of project development in each language and technology learned during the semester. The ability to work independently on a large software project while also functioning as an effective team member.

PSO-2. After completion of the Bachelor in Computer Application, students will be able to work in IT industries, various public and private sectors etc. They will be able to work on different profiles like web developers, UI designers, testers, coders, SEO developers etc. Pursue higher studies in the area of Computer Science/Applications. Take up self employment in Indian & global software market.



B.Sc. Computer Science

Programme Outcomes:

PO-1. Understand and apply mathematical foundation, statistical approaches and domain knowledge for the conceptualization of computing models from defined problems.

PO-2. Understand, analyze and develop computer programs in the areas related to algorithm, web design and IoT for efficient design of computer based system and the young professional for a range of computer organization, techniques of Computer Networking, Software Engineering, E-Commerce, Database management, Multimedia, Artificial Intelligence, Advance Java and Computer Applications. PO-3. Familiarity and practical competence with a broad range of programming language and open-source platforms. A project is a study of factual information for comprehending and applying the various concepts of the course into practice.

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Master of Library and Information Science(M.Lib.)

Programme Outcomes:

PO1: Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of major concepts, principles, theories and laws of various subjects in Library and Information Science.

PO2: Professional skills: Ability to understand and classify simple, compound and complex documents using standard classification schemes; capability to catalogue all types of documents using standard catalogue codes and metadata standards; ability to carry out library housekeeping operations and to provide library and information services by standard procedures.

PO3: Critical thinking/Development of solutions: Capability to critically analyze subjects of documents to classify them properly and to derive subject headings for subject cataloguing, indexing purposes and ability to think critically for solving various problems pertaining to the management of Libraries and Information Centers.

PO4: Ethics: Capable of demonstrating the ability to identify ethical issues related with Intellectual Property Rights while providing library services and able to understand basic philosophy and ethics of librarianship to make them conscientious librarians.

PO5: Modern tool usage: Understanding of concepts of information technology and its application to libraries and capable of using digital technology for communication purpose, for library housekeeping operations, and for searching information from OPAC, Internet and online databases.

PO6: Communication: Ability to communicate effectively in oral and written forms with users, colleagues and authorities in an effective manner.

PO7: Employability and Lifelong learning: Ability to seek job opportunities as library professionals; capable of self-paced and self-directed learning aimed at personal and professional development; for improving knowledge and skills and for re-skilling through continuing educational opportunities.

Program Specific Outcomes (PSOs)

At the end of the program, the student learns:

PSO1: The basics of library and information science in terms of theory and practice with all its latest trends at the time of their attending the course;

PSO2: Leant to achieve, manipulate and excel the situation of job seeking in future even if drastic change in the job market also;

PSO3: The variance and uniqueness in the course is so diversified that if situation prevails to seek a job in other fields i.e. book publishing market, archeology and museums also the students can get into that;

PSO4: The students are trained to handle all kinds of information environment both of traditional and modern information environment;

PSO5: Life-long learning: Values inculcated to learn and use those knowledge in their future lifelong environment also;

PSO6: Nation building: Over and above the students feel the values of nation building by their contribution.



BCA POs and PSOs

Program Outcomes

- 1. Pursue higher studies in the area of Computer Science/Applications.
- 2. Work in the IT sector as system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
- 3. Take up self-employment in Indian & global software market.
- 4. Gain exposure in solving interpersonal, social issues, preventive, ethical hacking, and forensic security technologies.
- 5. Continue the process of life-long learning through professional activities; adapt themselves with ease to new technologies

Program specific outcomes

- 1. Understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer based system.
- 2. Apply standard software engineering practices and strategies in software project development using open source programming environment to deliver a quality of product for business success.
- **3.** Students to have a wide perspective on software development including web based applications as well as mobile applications
- **4.** Students will be able to identify and describe the communication networks technologies in local area networks and the Internet and countermeasures for security threats.
- **5.** Students to have knowledge and expertise in at least one procedureoriented and object-oriented programming language and will be able to design and analyse algorithms as per need by relating the data structure and algorithms.

	BCA I Sem										
C PROGRAMM	C PROGRAMMING										
 Studer 	nts are	encour	aged to I	earn basi	cs of prog	gramming	skills				
Studer	 Students shall gain a familiarity with working in programming environment 										
Studer	nts lear	n logics	s, probler	n solving	techniqu	es using p	rograms				
Studer	 Students can develop simple programs using basics of C 										
Attainment of	Attainment of C Programming										
Pos &	Pos & PO1 PO2 PO3 PO4 PO5 PSO1 PSO2 PSO3 PSO4 PSO5										
PSOs											
Cos											
CO-1	CO-1 3 3 2 3 3 2 1 3										
CO-2	3	3	3	1	3	3	3	3	2	2	
CO-3	CO-3 3 3 3 2 3 3 3 2 3										

Computer Fundamental

CO-4

3

3

3

• Able to Understand Basic Concept of Computer

2

• Students are encouraged to learn about Different input and output Units

3

- Students are encouraged to learn about internal Structure of processor and types
- Students learn basics of number System, their types and Conversion Able to understand basic of Linux operating system

3

3

2

3

3

Attainment of Computer Fundamental

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	1	1	1	-	2	-	1	-	-	-
CO-2	1	1	1	-	2	-	1	-	-	-
CO-3	2	2	1	-	2	-	2	1	-	-
CO-4	1	1	-	2	2	2	-	-	2	-
CO-5	2	3	3	2	2	1	2	2	1	2

	BCA II Sem									
DATA STRUCT	DATA STRUCTURES USING C									
 Studer 	nts will	learn n	nemory a	llocation	of data e	lements				
 Studer 	nts are	encour	aged to l	earn File :	systems					
 Studer 	nts are	encour	aged to l	earn Sear	ching and	d Sorting t	echnique	S		
 Studer 	 Students will learn organisation of the data elements using stack, queue, linked list, etc 									
Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	2	2	3	3	2	2	1	2
CO-2	3	3	2	2	2	3	2	2	2	3
CO-3	3	3	1	2	3	3	1	2	2	1
CO-4	3	3	2	1	3	3	2	2	2	3

Digital Logic and Computer Design

- Students are encouraged to learn Digital Systems
- Students are encouraged to learn basics of Boolean Algebra
- Students are encouraged to learn Logic Circuits
- Students are encouraged to learn Memory and Programmable logics

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	-	2	2	1	-	-	1	-
CO-2	3	2	-	-	2	-	-	-	-	-
CO-3	3	3	-	-	2	-	-	-	-	-
CO-4	3	2	1	1	1	2	1	2	2	-

BCA III Sem												
OPERATIN	IG SYST	EM PR	INCIPLES									
• To une	derstan	d the t	ypes of C) perating	system,	services o	f OS and o	different o	operating	system		
struct	ures.											
To study process management and CPU scheduling algorithms.												
To study various issues in inter-process communication and OS role in IPC, understand the												
deadlock prevention and avoidance.												
 To understand the concepts of memory management and virtual memory policies and solve 												
problems using page replacement algorithms.												
To stu	dy the	I/O ma	nagemer	nt by OS, o	disk sche	duling, file	e manage	ment and	file opera	tions		
and di	rectory	imple	mentatio	n.								
Attainment of	f Opera	ting Sy	stem Pri	nciples						_		
Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5		
PSOs												
Cos												
CO-1	3	2	2	2	1	1	1	2	3	1		
CO-2	3	3	2	3	3	3	2	2	3	1		
CO-3	3	2	3	3	3	3	2	2	3	2		
CO-4	3	3	3	3	3	3	2	3	3	2		
CO-5 3 3 2 2 3 2 2 3 3 1												

Object oriented Programming with Java

- Importance of Object Oriented Programming
- Able to create Java Graphical Programs using Java applet programming
- Able to design multi-threaded programs
- Ability to build files input and output in an object oriented way

Attainment of Object oriented programming using Java

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	2	2	3	3	3	3	1	3
CO-2	3	3	2	1	3	2	2	2	2	3
CO-3	2	2	3	2	3	2	3	3	3	3
CO-4	3	3	2	3	3	3	3	3	3	3
						•		•	•	

Data Communication and Networking

- Students will learn about Data Communication and Networking Concept
- Students will learn the Types of Networks , Topology, OSI Reference Layer and TCP/IP Protocol
- Students will learn about the Digital Transmission and Transmission System
- Students will learn about the Local Area Network and MAC Layer

Attainment of Data Communication and Networking

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	2	1		1	3	1	1	3	1
CO-2	3	2	2	-	2	1	1	2	3	2
CO-3	3	2	2	-	1	2	2	2	3	2
CO-4	3	2	2	-	2	2	2	2	3	2

	BCA IV Sem
I	DATABASE MANAGEMENT SYSTEM
	 Understand database management system concepts.
	• Ability to evaluate business information problem and find the requirements of a problem in
	terms of data

• Ability to design the database schema with the use of appropriate data types for storage of data in database

• Ability to create, manipulate, query the database tables

Attainment of Database Management System

Pos & PSOs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
Cos										
CO-1	2	3	3	2	2	2	2	3	2	2
CO-2	2	2	1	2	2	1	3	3	2	2
CO-3	3	3	2	3	2	2	3	2	2	2
CO-4	3	3	3	2	2	3	2	3	2	3

DESIGN AND ANALYSIS OF ALGORITHM

- Students will be able to write pseudo code for algorithms and to analyses time and space complexity of the algorithms.
- Students will be able to choose appropriate design techniques for solving problems.
- Understand the various approaches used to solve the problems (divide and conquer, greedy method and dynamic programming).
- Students gain knowledge of basic traversal and search techniques for trees and graphs.
- Compare between different data structures and choosing appropriate data structure for design situations.

Attainment of DESIGN AND ANALYSIS OF ALGORITHM

Pos & PSOs Cos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO-1	3	3	2	1	2	3	3	2	1	3
CO-2	3	3	2	1	2	3	3	3	2	3
CO-3	3	3	3	2	3	3	3	3	2	3
CO-4	3	3	2	2	2	3	3	3	2	3
CO-5	3	3	2	2	2	2	2	2	1	2

Advanced JAVA

• Students will learn about basics windows events

• Students will learn the swing components

- Students will learn about the basics of java programming and database(JDBC)
- Students will learn about the basics of Servlets and network related concepts

Attainment of Advanced Java

Pos&PSOs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
Cos										
CO-1	3	2	2	-	3	2	3	2	3	1
CO-2	2	1	2	-	2	1	2	1	1	1
CO-3	2	2	2	-	3	2	1	2	1	3
CO-4	3	3	2	-	2	3	2	2	1	2

Advanced Computer Network and Security

- Students will learn about basics Network Type and Connections
- Students will learn the network Layer
- Students will learn about the basics Transport Layer and Application Layer
- Students will learn about the basics of Network Management

Attainment of Advanced Computer Network and Security

Pos&PSOs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
Cos										
CO-1	3	2	1	1	1	3	1	1	3	2
CO-2	3	2	2	1	2	1	1	2	3	2
CO-3	3	2	2	2	1	2	2	2	3	2
CO-4	2	2	2	3	2	2	2	2	3	3

BCA V Sem
SOFTWARE PROGRAMMING AND TESTING
• To study the principles of software testing, SDLC model, including software testing
objectives, process, criteria, strategies, and methods.
To discuss various software testing issues in the software and identify solutions using unit

- test, integration, black box and white box, regression and system test.
- Students learn how to plan a test project, conduct testing operations and design test cases, manage defects in the software, and generate a test case report.
- To understand the common people issues, apply software testing skills and technique of software tools and methodology to solve client project issues.
- Software testing provides career path for the test professional.

Attainment of SOFTWARE PROGRAMMING AND TESTING

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	2	3	2	2	3	2	3	3	2	-
CO-2	3	3	3	3	3	3	3	3	2	-
CO-3	2	3	2	2	2	1	3	3	1	-
CO-4	2	3	1	2	2	2	2	2	1	-
CO-5	2	3	2	2	2	2	2	2	1	-

Programming with Python

- Able to know various data structures such as lists, tuples, dictionaries and strings
- Able to know python Tkinter module to create GUI applications
- Able to know various object oriented programming skills using python
- Able to know connecting to databases and inserting data and updating the database

Attainment of Programming With Python

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	3	2	3	3	3	3	1	3
CO-2	3	3	3	2	3	2	3	2	2	3
CO-3	2	2	2	2	3	1	2	3	3	3
CO-4	3	3	2	3	3	3	2	2	3	3

CYBER SECURITY

- Students learn basics of cybercrime terminologies
- Students are encouraged to learn about Indian cybercrime acts
- Students are encouraged to learn different cybercrime activities
- Students are encouraged to learn background, need of cyber forensics

Attainment of Cyber Security

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	3	3	3	3	2	2	3	1
CO-2	3	3	3	3	3	1	1	1	2	1
CO-3	3	3	3	3	3	2	1	3	3	2
CO-4	3	3	3	3	3	3	2	2	2	2

SOFTWARE ENGINEERING

To understand the Concept of software engineering
To understand the difference software development process models
To understand the Software Requirement
To understand the CMMI Concept
Able to Software understand Architectural Model
To understand the Testing Strategies

Attainment of Software Engineering

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	3	3	3	3	3	3	3	3	2	2
CO-2	3	3	2	2	3	3	3	3	2	3
CO-3	3	3	3	3	3	3	3	3	2	2
CO-4	3	3	2	3	3	3	3	3	2	3

.NET Framework using C#

- Students will learn the basics of .Net framework and Create, compile and run object-oriented C# programs using Visual Studio
- Students will learn about the basic concepts of OOP's and C# Tokens
- Students will learn about inheritance and working with collections
- Create, compile and deployment the windows form applications and windows services

Attainment of .NET Framework using C#

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	Ī
PSOs											
											l
Cos											
CO-1	3	3	3	1	3	3	3	3	1	2	l
CO-2	2	3	3	2	3	3	3	3	2	1	l
CO-3	3	2	2	2	2	2	2	2	2	1	l
CO-4	2	2	2	2	3	2	3	2	1	2	l

				BC	CA VI S	SEM				
Cloud Compu	ting									
• To un	dersta	nd the	e meanir	ng of clo	oud com	puting, t	ypes of	cloud co	mputing	models,
advant	tages o	ver on	premise	solutions						
 To kno 	w the o	client t	ypes asso	ociated w	ith cloud	computir	ng approa	ch		
 Able to 	o know	softwa	are as a S	ervice mo	odel(SAA	S), Indust	ry produc	ts availab	le to impl	ement
SAAS r	nodel									
Able t	o unde	erstand	l the mi	grating th	ne existir	ng solutio	ns to clo	ud and v	arious Bu	isiness
solutio	ons like	Googl	e cloud, A	Amazon A	WS, Mic	rosoft Azı	ure			
Attainment o	of Clo	oud Co	mputing	5	1				1	1
Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cas										
	2	2	2	2	2	2	1	2	2	1
CO-1	2	2	2	2	2	2	2	2	2	2
CO-3	2	2	2	2	3	1	2	2	2	3
<u> </u>	2	2	2	2	2	2	2	2	2	2
CO-4	3	3	2	5	3	5	5	2	5	2
• Studer	ts lear	NCE n busir n diffe	iess view	of inform	nation te	chnology	applicatio	n		
Studer	nts lear	n Bl co	ncents	spileation	5					
Studer	ts loar	n basic	s of onto	rpriso ror	orting					
• Studer	its leal	II Dasic	s or ente	i pi ise i ep	Joi ting					
Attainment of	Busine	ess Inte	lligence							
Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
005	2	3	3	3	3	2	2	3	3	2
CO-1	3	5								
CO-1 CO-2	3	3	3	2	3	2	3	2	2	3
CO-1 CO-2 CO-3	3 3 2	3 2	3	2 2	3 3	2 2	3	2 3	2 3	3
CO-1 CO-2 CO-3 CO-4	3 3 2 3	3 2 3	3 3 3	2 2 3	3 3 3	2 2 3	3 2 3	2 3 2	2 3 3	3 3 2

Web o	Web designing and Programming							
•	Students will learn about basics of web(WWW)							
•	Students will learn the basics of HTML and CSS							
•	Students will learn about the basics of Javascript and HTML							
•	Students will learn about the basics of PHP and MySQL							

Attainment of Web designing and Programming

Pos &	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
PSOs										
Cos										
CO-1	2	2	2	-	2	2	3	2	3	1
CO-2	3	2	2	-	2	2	2	2	1	1
CO-3	2	2	2	-	3	2	2	2	1	2
CO-4	3	3	3	-	2	2	2	2	2	2



POs, COs and PSOs Mapping

B.Sc(Computer Science)



BCS PROGRAMME OUTCOMES (POs)

On successful completion of Graduate Program, Graduating Students/ Graduates will be able to:

DO 1	Domain Expertise:
POI	Able to demonstrate a thorough understanding and grasp more academic subjects that are part of an
	undergraduate program of study.
	Effective Communication Skills:
PO 2	Effectively convey thoughts and ideas.
	Enhance the ability to present noteworthy information in a clear and concise manner to various groups.
	Critical Thinking:
	Evaluating and analyzing arguments, assertions, and opinions using empirical data.
PO 3	The ability to identify relevant assumptions or implications and construct logical arguments.
	Critically analyse practices, policies, and theories by utilizing a scientific approach to knowledge
	acquisition.
DO 4	Critical Problem Identification & Solving:
PO 4	The ability to apply one's competences to solve unfamiliar challenges based on what has been learne
	Apply one's learning to real-life scenarios.
	Teamwork / Coordination:
PO 5	Being able to facilitate a group's cooperative effort and act together as a group or team to achieve
100	a common goal.
	Work effectively as an individual as well as a member of the team.
	IT literacy skills:
PO 6	The ability to utilize ICT in various learning situations.
	Using ICT tools to access, retrieve, and modify authenticated data using data analysis
	Life-long learning and Research related skills:
	Ability to habitualize self-learning and self-motivation
PO 7	Acclimate to the ever-increasing demands of the workplace and life.
	Skill in planning, conducting, and reporting the outcomes of an experiment or investigation.
	Ability to define a problem, test the problem, pose appropriate questions, and synthesize and
	articulate the problem
PO 8	Environmental Longevity:
100	Get environmental awareness and follow eco-friendly practices to create a clean environment.
	Moral and Ethical Consciousness:
	Ability to live moral and ethical ideals and to use ethical practices in all aspects of one's job.
PO 9	Capable of demonstrating the ability to recognize ethical issues relevant to one's work,
	abstain from unethical behavior, show respect for environmental and sustainability issues.
	and act impartially and truthfully in all aspects of one's work.
	Effective Project Management:
	Determine the project's goals, objectives, and components, as well as the appropriate completion
PO 10	data
	uait.
	rian and organize in such a way as to meet the targets on time.
	Be capable of recognizing opportunities and developing contingency plans.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

With the goal of enabling students to gain a comprehensive understanding of computer knowledge as a field of study, both theoretically and practically, the Department of Computer Science of PSC & KVSC Government College, offers two three-year undergraduate programs (BSC MPCs & BSc MECs) that span six semesters. The following competences and skills will be acquired by students upon successfully completing the B.Sc. Computer Science Degree Program.

PSO 1	The capability to use computer science theory and mathematical principles in real-time problem solving.
PSO 2	The ability to make use of appropriate techniques, skills, and tools necessary for computing practice.
PSO 3	The ability to design and develop principles in the construction of software systems of diverse complexity
PSO 4	Recognizing the need and ability to pursue professional development in a continuous manner.
PSO 5	Communicate effectively on several activities and make effective presentations of them.

PSO – PO MAPPING

						Pos					
		1	2	3	4	5	6	7	8	9	10
PSOs	1	*	*		*		*				
	2	*	*	*	*		*	*			
	3	*	*	*	*			*			
	4	*	*		*		*	*		*	*
	5	*	*		*	*	*	*		*	*

COURSE OUTCOMES (COs)

Course Code: C1 Course Name: Problem solving in C

Upon co	Upon completion of this course, the student will be able to: PSOs		
CO 1	Understand the evolution and functionality of a Digital Computer.	1	1,2,3
CO 2	Apply logical skills to analyse a given problem	2	1,4,7
CO 3	Develop an algorithm for solving a given problem.	3	3,4,7
CO 4	Understand "C" language constructs like Iterative statements, Array	3	147
	processing, ronners, etc.	5	1,7,7
CO 5	Apply "C" language constructs to the algorithms to write a "C" language	3.4	4.6.7
	program.	- ,	7 - 7 -

Course Code: C2 Course Name: Data Structures using C

Upon co	Upon completion of this course, the student will be able to:		
CO 1	Understand available Data Structures for data storage and processing.	1	1,2,4
CO 2	Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph	2	1,2,4
CO 3	CO 3 Choose a suitable Data Structures for an application		1,4,7
CO 4	Develop ability to implement different Sorting and Search methods	2	2,4,9
CO 5 Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal		4	1,4,7
CO 6	Design and develop programs using various data structures	3,4	1,4,7
CO 7	Implement the applications of algorithms for sorting, pattern matching etc	3	1,4,7

Course Code: C3 Course Name: Data Base Management System

Upon c	ompletion of this course, the student will be able to:	PSOs	POs
CO 1	Gain knowledge of Database and DBMS	1	1,2,4
CO 2	Understand the fundamental concepts of DBMS with special emphasis on relational data model	2	1,2,7
CO 3	Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database	3	2,3,7
CO 4 Model database using ER Diagrams and design database schemas based on the model		3	2,5,7
CO 5	Create a small database using SQL	3,4	3,4,7
CO 6	Store, Retrieve data in database	3	3,4,7

Course Code: C4 Course Name: Object Oriented Programming through Java

Upon co	Upon completion of this course, the student will be able to:		
CO 1	Understand the benefits of a well-structured program		1,2,4
CO 2	Understand different computer programming paradigms	2	1,2,7
CO 3	Understand underlying principles of Object-Oriented Programming in Java	2	2,3,7
CO 4	Develop problem-solving and programming skills using OOP concepts	3	2,4,7
CO 5	Develop the ability to solve real-world problems through software development in high-level programming language like Java	3,4	3,6,7

Course Code: C5 Course Name: Operating Systems

Upon co	ompletion of this course, the student will be able to:	PSOs	POs
CO 1	Know Computer system resources and the role of operating system in resource management with algorithms	1	1,2,4
CO 2	Understand Operating System Architectural design and its services.	2	1,2,4
CO 3	Gain knowledge of various types of operating systems including Unix and Android.	2	4,6,7
CO 4	Understand various process management concepts including scheduling, synchronization, and deadlocks.	2	2,4,7
CO 5	Have a basic knowledge about multithreading	3	1,2,7
CO 6	Compare different approaches for memory management	2	3,4,7
CO 7	Understand and identify potential threats to operating systems and the security features design to guard against them	4	2,3,9
CO 8	Specify objectives of modern operating systems and describe how operating systems have evolved over time.	5	1,2,7
CO 9	Describe the functions of a contemporary operating system	4	1,2,3

Course Code: 6A Course Name: WEB INTERFACE DESIGN TECHNOLOGIES

Upon con	Upon completion of this course, the student will be able to:		
CO 1	To Understand the web architecture		1,2,3
CO 2	Gain knowledge about various components of a website	2	4,5,7
CO 3	Demonstrate skills regarding creation of a static website and an interface to dynamic website.	3	4,5,7
CO 4	CO 4 Learn how to install wamp, bitnami local host servers		1,2,3
CO 5	Learn how to install word press and gain the knowledge of installing various plugins to use in their websites.	5	5,7,10

Course Code: 7A Course Name: Web Applications Development using PHP & MYSQL

Upon con	Upon completion of this course, the student will be able to:		
CO 1	Understand PHP programs and Apply in built functions and create user defined functions in PHP programming	1,2	1,2,4
CO 2	Understand and create PHP scripts to handle HTML forms	3	2,3,4
CO 3	Develop dynamic and interactive web based applications using PHP and MYSQL	5	4,5,7
CO 4	how to use PHP with a MySQL database and can write database driven web pages.	4,5	1,2,4

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Pos & COs of Master of Library & Information Science (M.Lib)



Master of Library & Information Science (M.Lib)

	Program Educational Objectives (PEO)
PEO-I	Towards becoming familiar with the idea of knowledge management and information transmission in libraries.
РЕО-П	To gain knowledge of classification theories, concepts related to them, and how they affect the creation of library categorization systems.
PEO-III	To give the students advanced-level practical experience in library classification utilising the Universal Decimal Classification (UDC) system by categorising complicated and straightforward titles, respectively.
PEO-IV	To comprehend the idea of research design and the tools and methods used to conduct research in the various branches of library and information science.
PEO-V	To comprehend the numerous cutting-edge uses of IT in libraries with the idea of automation, planning, and implementation of libraries, as well as to research various library administration software modules.

	Program Outcomes (PO)			
PO-1	Should be able to get acquainted with various standards and tools being used in processing, managing and retrieving information resources.			
PO-2	Should be able to manage information traditionally as well as in modern ways.			
PO-3	Should be able to design, query and evaluate information systems.			
PO-4	Should be able to demonstrate understanding of research methods, the ability to design a research project, and the ability to evaluate and synthesize research literature;			
PO-5	Should be able to evaluate programs and services using library automation.			

Programme Specific Outcome (PSO's)			
PSO1	Create a workforce with professional values, a commitment to excellence, and attitudes for libraries and information centres.		
PSO2	Prepare students for advanced-level employment in the administrative context of a modern library.		
PSO3	Provide instruction and training in knowledge management and communication.		
PSO4	Provide the pupils the professional skills they'll need to use advanced information technology		

	in libraries.
PSO5	Provide the students the tools they need to do research in various areas of library and information science.

Course Outcome (CO)			
Course Code	Course Title	Course Outcome	
MLIS-101	Knowledge, Information and Communication	 CO1: Should be able to understand the concepts of data communication and networks. CO2: Should be able to provide information services, information exchange and knowledge sharing activities. CO3: Should be able to explore data communication benefits and networking applications within organizations as well as other networked organizations. 	
MLIS-102	Knowledge Organization	 CO1: Should be able to provide knowledge on the AACR-2, classification systems (LC and UDC etc.) and subject heading indexing (LCSH, Sears etc.). x CO2: Should be able to familiarize students with library documents processing systems i.e. cataloguing, classification, subject heading description etc. CO3: Should be able to introduce and teach the application of the Library of Congress Classification System (LCC). 	
MLIS-103	Research Methodology and Statistical Techniques	 CO1: Should be able to understand the basic theory and practice of research and be familiar with qualitative and quantitative methods. CO2: Should be able to carry out a small research project under the guidance/supervision of a teacher. CO3: Should be able to evaluate and use of research techniques and methods. CO4: Should be able to analyse, present and interpret the data. CO5: Should be able to draw the appropriate findings and produce research report. 	
MLIS-104	Information Sources and System	 CO1: Should be able to select and use the appropriate print and electronic information sources. CO2: Should be able to develop information services and resources to meet out the needs of students, scientists and researchers in these 	

		disciplines
		CO3: Should be able to understand the concepts of information systems and services.
MI IS 105D	Duint and Electronic Secures & Literature	CO4: Should be able to deals with theoretical foundations of various information behaviors such as information needs, utilizing, gathering, seeking, and evaluating
MLIS-105B	in Humanities	information sources and their evaluation.
		 CO2: Should be able to select and use the appropriate print and electronic information sources. CO3: Should be able to understand the methodologies and research tools being used by scientists in the area of Social Sciences and Humanities.
		CO4: Should be able to use and evaluation of print and electronic resources.
		CO5: Should be able to understand activities of research institutions and professional organizations at National and International.
MLIS-201	Academic Library System	CO1: Should be able to examine the role of academic libraries in current scenario.
		CO2: Should be able to Collection Development Policy & Procedure, Weeding out Policy & Central Government Rules.
		CO3: Should be able to explore various library services.
		CO4: Should be able to apply the modern techniques of planning and implementation of policies and procedures.
		CO5: Should be able to apply comprehend the basic knowledge and skills of handling the library finances.
		CO6: Should be capable of managing the human resources beneficially
MLIS-202	Information Storage & Retrieval	CO1: Should be able to develop abstract using standard guidelines.
		CO2: Should be able to produce/generate manual and computerized indexes by applying different indexing techniques and methods.
		CO3: Should be able to know IR Systems and trends.

		CO4: Should be able to create information products and marketing as per requirement
MLIS-204P	Information Technology – Practical	CO1: Should be able to assist the users in searching and retrieval of information through the networks.
		CO2: Should be able to understand the issues and technology involved in library automation.
		CO3: Should be able to plan and design automated library systems.
		CO4: Should be able to use of operating systems, file management, word processing, spread sheets, presentation software, web browsers and email.
		CO5: Should be able to use library software packages such as SOUL, Granthalya, Koha and TLSS for in house operations.
MLIS-205A	Modern Libraries	CO1: Should be able to the creation of printed text as well as digital content-creation technologies.
		CO2: Should be able to development and management in all modern libraries.
		CO3: Should be able to development with an emphases on policies, community needs assessment & information needs, criteria & selection materials (print, non-print, digital, born digital forms).
		CO4 : Should be able to various types of organizations, user & library evaluation of collections, weeding, intellectual freedom & copyright, collection assessment etc.
		CO5: Should be able to use the appropriate sources and search tools of the specific disciplines, to be familiar with electronic resources, international databases, bibliographies, internet sources.