

**Program Structure**  
**BCA, BCA-MCA(INTEGRATED)**  
**(2018-19)**

	Semester – I			Semester – II		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
1st Year	EGL111	English Language Skills I	3 0 3	EGL122	English Language Skills II	3 0 3
	TA121T	C Programming	3 0 3	MGT122	Fundamentals of Finance & Accounting	3 0 3
	TA121P	C Programming Practical	0 3 2	MATH102	Mathematics II	3 0 3
	MATH101	Mathematics I	3 0 3	CS212T	Object Oriented Programming through C ++	3 0 3
	MATH111	Probability and Statistics	3 0 3	CS212P	Object Oriented Programming through C ++ Practical	0 3 2
	MGT102	Principles of Management	3 0 3	ECN101	Principles of Economics	3 0 3
	BCAC104	Information Technology Trends	3 0 3	CS314T	Data Structures & Algorithms	3 0 3
				CS314P	Data Structures & Algorithms Practical	0 3 2
			Unit=20			Unit=22
BCAIP101 SUMMER PROJECT-I [Units = 5]						
2nd Year	Semester – I			Semester – II		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
	CS325T	Data Communication & Computer Networks	3 0 3	SSU244	Soft Skills-I	3 0 3
	CS325P	Data Communication & Computer Networks Practical	3 0 2	CS429T	Web Technologies	3 0 3
	CS311T	Database Management Systems	3 0 3	CS429P	Web Technologies Practical	0 3 2
	CS311P	Database Management Systems Practical	0 3 2	BCAC206	Software Engineering	3 0 3
	CS313T	Operating Systems	3 0 3	CS312T	Java Programming	3 0 3
	CS313P	Operating Systems Practical	0 3 2	CS312P	Java Programming Practical	0 3 2
	EGL233	Technical Report Writing	3 0 3	MATH303	Operations Research	3 0 3
	BCAC201	System Analysis and Design	3 0 3	ENV222	Environmental Studies	3 0 3
	CS323	Computer Organization and Architecture	3 0 3			
		Unit=24			Unit=22	
BCAIP201 SUMMER PROJECT-II [Units = 5]						
3rd Year	Semester – I, 2021-22			Semester – II, 2021-22		
	Course Code	Course Title	L P U	Course Code	Course Title	L P U
	CS428	Theory of Computation	3 0 3	MCIC306T	Multimedia Systems	3 0 3
	MISE306	Management Information Systems	3 0 3	MCIC306P	Multimedia Systems Practical	0 3 2
	BCAC304T	Advance Java Programming	3 0 3	MCIC309	Mini Information Technology Project	6 0 6
BCAC304P	Advance Java Programming Practical	0 3 2	ES209	Digital Electronics and Micro Processors	3 0 3	

  
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CS424T	Network Security	3	0	3
CS424P	Network Security Practical	0	3	2
BCAC352T	Python Programming	3	0	3
BCAC352P	Python Programming Practical	0	3	2
BCAC351T	Windows Applications using Dot Net Technologies	3	0	3
BCAC351P	Windows Applications using Dot Net Technologies Practical	0	3	2
		Unit=26		

CSA323T	Compiler Design	3	0	3
CS440T	Smartphone Computing and Applications	3	0	3
CS440P	Smartphone Computing and Applications Practical	0	3	2
CSA325T	Web Applications using Dot Net Technologies	3	0	3
CSA325P	Web Applications using Dot Net Technologies Practical	0	3	2
CSA326T	Internet of Things	3	0	3
		Unit=30		

4 <sup>th</sup> year					
Semester – I, 2022-23			Semester – II, 2022-23		
Course Code	Course Title	L P U	Course Code	Course Title	L P U
CS421T	Data Warehousing and Data Mining	3 0 3	CS225T	Object Oriented Analysis and Design with Unified Modeling Language	3 0 3
CS421P	Data Warehousing and Data Mining Practical	0 3 2	CS225P	Object Oriented Analysis and Design with Unified Modeling Language Practical	0 3 2
BCAC305T	Computer Graphics	3 0 3	SSU485	Soft Skills-II	3 0 3
BCAC305P	Computer Graphics Practical	0 3 2	CS405T	Artificial Intelligence	3 0 3
CS437	Cloud Computing	3 0 3	CS405P	Artificial Intelligence Practical	0 3 2
MCAC452	Parallel and Distributed Database Systems	3 0 3	CS441	Big Data Analysis	3 0 3
MCAC451	Natural Language Processing and Machine Translation	3 0 3	CSA426T	Enterprise Application development using Java	3 0 3
CSA324T	PHP with MySql	3 0 3	CSA426P	Enterprise Application development using Java Practical	0 3 2
CSA324P	PHP with MySQL Practical	0 3 2	CSA425T	Digital Image Processing	3 0 3
		Unit=24	CSA425P	Digital Image Processing Practical	0 3 2
					Unit=26

5 <sup>th</sup> year					
Semester – I, 2023-24			Semester – II, 2023-24		
Course Code	Course Title	L P U	Course Code	Course Title	L P U
CS223	Design and Analysis of Algorithm	3 0 3	MCIC503	Major Information Technology Project	0 0 22
SSP243	Soft Skills-III	3 0 3			Unit=22
	Elective 1 (Theory)	3 0 3			
	Elective 1 (Practical)	0 3 2			
	Elective 2 (Theory)	3 0 3			
	Elective 2 (Practical)	0 3 2			
	Elective 3 (Theory)	3 0 3			
	Elective 3 (Practical)	0 3 2			
	Elective 4	3 0 3			

  
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		Unit-24			
List of Electives 1, 2 & 3			List of Elective 4		
Course Code	Course Title	L P U	Course Code	Course Title	L P U
CS423T	Network Programming	3 0 3	CS438	E-Commerce	3 0 3
CS423P	Network Programming Practical	0 3 2	MCIC303	Software Testing and Quality Management	3 0 3
CS417T	Structured Query Language and Database Applications	3 0 3	CS413	Real Time Systems	3 0 3
CS417P	Structured Query Language and Database Applications Practical	0 3 2	CS422	Design Patterns	3 0 3
MCIC405T	Advance Operating System	3 0 3	CS427	Software Testing Methods	3 0 3
MCIC405P	Advance Operating System Practical	0 3 2	CS430	Software Process and Project Management	3 0 3
MCIC409T	Advance Computer Networks	3 0 3	CS420	Parallel Programming	3 0 3
MCIC409P	Advanced Computer Networks Practical	0 3 2	EC432	Fiber Optics & Opto Electronics	3 0 3
MCIC407T	Advance Data Structures	3 0 3		Bio-Informatics	3 0 3
MCIC407P	Advance Data Structures Practical	0 3 2		Program Paradigms	3 0 3
CS430T	Multimedia Computing	3 0 3			
CS430P	Multimedia Computing Practical	0 3 2			
CS403T	Parallel Computing	3 0 3			
CS403P	Parallel Computing Practical	0 3 2			
CS443T	Unix and Shell Programming	3 0 3			
CS443P	Unix and Shell Programming Practical	0 3 2			
CSE424T	Advance Database Management System	3 0 3			
CSE424P	Advance Database Management System Practical	0 3 2			
	Linux and Unix System Administration	3 0 3			
	Linux and Unix System Administration Practical	0 3 2			
	Rich Internet Application	3 0 3			
	Rich Internet Application Practical	0 3 2			

  
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