

Five year Integrated BCA-MCA (2018)
CURRICULUM

Course Code	Course Title	L T P	Cr	ES	Course Code	Course Title	L T P	Cr	ES
SEMESTER 1					SEMESTER 2				
18CUL101	Cultural Education I	2 0 0	2		18CUL111	Cultural Education II	2 0 0	2	
18ENG101	Communicative English	2 0 2	3		18ENG121	Professional Communication	1 0 2	2	
	Language I	2 0 0	2			Language II	1 1 0	2	
18MAT102	Mathematical Foundation	3 1 0	4		18MAT112	Discrete Mathematics	3 1 0	4	
18ENV300	Environmental Science and Sustainability	3 0 0	3		18CSA114	Database Management System	3 1 0	4	
18CSA103	Computer Essentials	3 0 2	4		18CSA113	Programming in C	3 1 0	4	
18CSA101	Computational Thinking and Problem Solving	3 0 0	3		18CSA111	Computer Organization	3 1 0	4	
18CSA182	Computational Thinking and Problem Solving Lab	0 0 2	1		18CSA183	Database Management System Lab-I	0 0 2	1	
					18CSA184	Programming in C Lab	0 0 2	1	
TOTAL				22	TOTAL				24
SEMESTER 3					SEMESTER 4				
18AVP201	Amrita Value Programme I	1 0 0	1		18AVP211	Amrita Value Programme II	1 0 0	1	
18SSK201	Life Skills I	1 0 2	2		18SSK211	Life Skills II	1 0 2	2	
18MAT208	Statistical and Numerical Methods	3 1 0	4		18CSA214	Computer Networks	3 1 0	4	
18CSA209	Data Structures and Algorithms	3 1 0	4		18CSA215	Java Programming	3 1 0	4	
18CSA206	Object Oriented Programming using C++	3 1 0	4		18CSA216	Web Technologies	3 1 0	4	
18CSA201	Operating System	3 1 0	4		18CSA211	Software Engineering	3 0 2	4	
18CSA207	Principles of Management and Accounting	3 0 0	3			Open Elective A	3 0 0	3	
18CSA283	Data Structures and Algorithms Lab-I	0 0 2	1		18CSA285	Java Programming Lab-I	0 0 2	1	
18CSA284	Object Oriented Programming using C++ Lab	0 0 2	1		18CSA286	Web Technologies Lab	0 0 2	1	
TOTAL				24	TOTAL				24
SEMESTER 5					SEMESTER 6				
18SSK301	Life skills III	1 0 2	2		18CSA317	Computer Graphics	3 0 0	3	
18CSA307	C# and .NET Framework	2 0 2	3		18CSA318	Cryptography and Cyber Security	4 0 0	4	
18CSA306	Advanced Java and J2EE	3 0 0	3		18CSA319	Python Programming	2 0 2	3	
	Elective A	3 0 0	3			Elective B	3 0 0	3	
18CSA390	Live in Labs / Open Elective B	3 0 0	3		18CSA383	Computer Graphics Lab	0 0 2	1	
18CSA389	Mobile Application Development Lab	0 1 2	2		TOTAL			14	
18CSA388	Advanced Java and J2EE Lab	0 0 2	1		18CSA399	Project (For Exit Option)		6	
18CSA391	Comprehensive Technical VIVA-Voce		2		TOTAL			20	
18CSA392	Minor Project		3		TOTAL (For Exit Option)=136				
TOTAL				22	TOTAL				
SEMESTER 7					SEMESTER 8				
18CA301	Advanced Computer Networking and Internet	3 0 1	4		18CA313	Web Services and Cloud	3 0 1	4	
18CA305	Design and Analysis of Algorithms	3 1 0	4		18CA312	Data Mining and Applications	3 0 1	4	
18CA303	Advanced Software Engineering	3 0 1	4		18CA311	Computer Language Engineering	3 1 0	4	
18MA304	Basics of Operations Research	3 1 0	4			Elective - I	3 0 0	3	
18CA302	Advanced Databases	3 0 0	3			Elective - II	3 0 0	3	
	Lab 1	0 0 2	1		18EN600	Technical Writing*	0 0 1	P/F	
	Lab 2	0 0 2	1		18CA391	Research Learning and Problem Formulation	0 0 2	1	
						Lab 3	0 0 2	1	
TOTAL				21	TOTAL				20
SEMESTER 9					SEMESTER 10				
18CA401	Design Patterns	3 1 0	4		18CA497	Dissertation Phase II		12	
18CA402	System Security	3 1 0	4						
	Elective - III	3 0 0	3						
	Management Elective	3 0 0	3						
	Lab 4	0 0 2	1						
18CA496	Dissertation Phase I		5						
TOTAL				20	TOTAL				12
LANGUAGES									
Paper I					Paper II				
18HIN101	Hindi I	1 0 2	2	B	18HIN111	Hindi II	1 0 2	2	B
18KAN101	Kannada I	1 0 2	2	B	18KAN111	Kannada II	1 0 2	2	B

18MAL101	Malayalam I	1 0 2	2	B	18MAL111	Malayalam II	1 0 2	2	B
18SAN101	Sanskrit I	1 0 2	2	B	18SAN111	Sanskrit II	1 0 2	2	B
Elective A, B					Elective I, II, III				
18CSA331	Artificial Intelligence	3 0 0	3	E	18CA331	Big Data Analytics and Visualization	3 0 0	3	E
18CSA332	Architecture and Deployment of Secure and Scalable WAN	3 0 0	3		18CA332	Bioinformatics	3 0 0	3	E
18CSA333	Client Server Computing	3 0 0	3		18CA333	Business Intelligence	3 0 0	3	E
18CSA334	Embedded Systems	3 0 0	3		18CA334	Computational Intelligence	3 0 0	3	E
18CSA335	Enterprise Resource Planning Management	3 0 0	3		18CA335	Computer Graphics and Visualization	3 0 0	3	E
18CSA336	Knowledge Management	3 0 0	3		18CA336	Database Administration	3 0 0	3	E
18CSA337	LAN Switching and Advanced Routing	3 0 0	3		18CA337	Deep Learning for Natural Language Processing	3 0 0	3	E
18CSA338	Micro Processor Systems	3 0 0	3		18CA338	Digital Image Processing	3 0 0	3	E
18CSA339	Multimedia and Graphics	3 0 0	3		18CA339	Distributed Computing.	3 0 0	3	E
18CSA340	Social and Professional Issues in Computing	3 0 0	3		18CA340	Advanced Operating System and Distributed Computing	3 0 0	3	E
18CSA341	Soft Computing	3 0 0	3		18CA431	Information Retrieval	3 0 0	3	E
18CSA342	Systems and Network Administration	3 0 0	3		18CA432	Introduction To Intelligent Systems and Machine Learning	3 0 0	3	E
					18CA433	Modern Web Application Development using Mean Stack	3 0 0	3	E
					18CA434	Network Management and System Administration	3 0 0	3	E
					18CA435	Network Security	3 0 0	3	E
					18CA436	Open-Source Systems	3 0 0	3	E
Management Electives (Any One)					18CA437	Semantic Web Technologies	3 0 0	3	E
18HU433	Principles of Economics and Management	3 0 0	3	E	18CA438	Software Quality Assurance	3 0 0	3	E
18HU434	Software Project Management	3 0 0	3	E	18CA439	Structure and Interpretation of Computer Programs	3 0 0	3	E
Lab					18CA440	Wireless Communications and Networks	3 0 0	3	E
18CA383	Data Structures and Algorithms Lab-II	0 0 3	1						
18CA384	Java Programming -II	0 0 3	1						
18CA385	GUI Programming using VB.Net	0 0 3	1						
18CA386	Android Application Development	0 0 3	1						
18CA387	Web Development using ASP.NET	0 0 3	1						
18CA388	Operating Systems Lab	0 0 3	1						
18CA389	Database Management Systems Lab-II	0 0 3	1						
18CA481	Web and XML Programming using Java and J2EE	0 0 3	1						
18CA482	Angular and Node JS Lab	0 0 3	1						
18CA483	Network and Grid Simulation Lab	0 0 3	1						
18CA484	Bio-informatics Lab	0 0 3	1						
18CA485	Computer Organization and Architecture Lab	0 0 3	1						