

BACHELOR OF COMPUTER APPLICATIONS (BCA) – 4 YEARS

FIRST YEAR					
FIRST SEMESTER			SECOND SEMESTER		
S.No.	Paper No	Title of Paper(s)	S.No.	Paper No	Title of Paper(s)
1	25BCA401DS01	Mathematics Foundations to Computer Science - I	1	25BCA402DS01	Mathematics Foundations to Computer Science - II
2	25BCA401SEC01	Problem Solving Techniques	2	25BCA402DS02	Data Structures
3	25BCA401DS02	Computer Architecture	3	25BCA402DS03	Operating Systems
4	25ENGX01AE01	General English - I	4	25BCA402SEC01	Object Oriented Programming using Java
5	25SOCX01MD01	Indian Knowledge System	5	25BCA402SEC02	Web Technologies
6	25CSAX01VA01	Environmental Science and sustainability	6	25EVSX01AC01	Indian Constitution
7	25HNDX01AE01 or 25SKTX01AE01	Additional Course - Indian or Foreign Language Other than Mother Tongue and English (1- 1- 0)) [optional course]*	7	25HNDX03AE01 or 25SKTX03AE01	Additional Course - Indian or Foreign Language Other than Mother Tongue and English (1- 1- 0)) [optional course]*

SECOND YEAR					
THIRD SEMESTER			FOURTH SEMESTER		
S.No.	Paper No	Title of Paper(s)	S.No.	Paper No	Title of Paper(s)
1	26BCA403DS01	Probability and Statistics	1	26BCA404DS01	Entrepreneurship and Startup Ecosystem
2	26BCA403DS02	Data Base Management System	2	26BCA404DS02	Computer Networks
3	24BCA403DS03	Python Programming	3	26BCA404DS03	Design and Analysis of Algorithm
4	26BCA403DS03	Software Engineering	4	26BCA404DS04	Artificial Intelligence
5		Professional Elective – I	5		Professional Elective – II
6	26Y0GX04VA01	Yoga/Sports/NCC/NSS/Disaster Management	6	26BCA404SEC01	Design Thinking and Innovation

THIRD YEAR					
FIFTH SEMESTER			SIXTH SEMESTER		
S.No.	Paper No	Title of Paper(s)	S.No.	Paper No	Title of Paper(s)
1	DSE301*	Professional Elective – III	1	27BCA406DS01	Generative AI
2	DSE302*	Professional Elective – IV	2	DSE304*	Professional Elective – VI
3	DSE303*	Professional Elective – V	3	DSE305*	Professional Elective – V
4	27BCA405SEC01	Quantitative Techniques	4	27ENGX01AE01	Soft Skills
5	27BCA405SEC02	Internship/capstone Project	5	27BCA406SEC01	Major Project [Initiated in 5th Semester]
6	27BCA405SEC03	Major Project [evaluation in sixth semester]			

FOURTH YEAR					
SEVENTH SEMESTER			EIGHTH SEMESTER		
S.No.	Paper No	Title of Paper(s)	S.No.	Paper No	Title of Paper(s)
Specialization – AI & ML			BCA (Honours)		
1	28BCA407MD01	Social Network Analysis1	1	DSE403*	Professional Elective –X
2	26BCA407DS02	Optimization of ML	2	DSE404*	Professional Elective –XI
3	DSE401*	Professional Elective –VIII	3	DSE405*	Professional Elective –XII
4	DSE402*	Professional Elective –IX	4	28BCA408SEC01	Dissertation work [Started in Seventh semester]
5	SEC401	Dissertation work [evaluation in Eight semester]	BCA – (Honours with Research)		
6	28BCA407SEC02	Summer Internship II	1	28BCA407DS01	Advanced Data Analysis Tools
Specialization – Data Science			2	28BCA407DS02	Research Methodology

S.No.	Paper No	Title of Paper(s)	S.No.	Paper No	Title of Paper(s)
1	28BCA407MD02	Advanced Statistical methods for Data Science	3	28BCA407DS03	Research Internship Report and Viva –Voce
2	28BCA407DS01	Python for Data Science	4	28BCA407DSE01	Professional Elective – IX
3	DSE401*	Professional Elective –VIII	5	28BCA407DSE01	Professional Elective – X
4	DSE402*	Professional Elective –IX	BCA –(Honours with Research)		
5	28BCA407SEC01	Dissertation work [evaluation in Eight semester]	1	28BCA408SEC01	Dissertation (For Research Track)*
6	28BCA407SEC02	Summer Internship II			

1. Data Science

S.No.	Semester	Course Code	University Nomenclature Course Code	Professional Elective
1	III	DSE*201	26BCA403DSE11	Basics of Data Analytics using Spreadsheet
2	IV	DSE*202	26BCA404DSE11	Data Visualization
3	V	DSE301	27BCA405DSE11	Introduction to Data Science
4	V	DSE302	27BCA405DSE12	Time Series Analysis
5	V	DSE303	27BCA405DSE13	Machine Learning
6	VI	DSE304	27BCA406DSE11	Big Data Analytics
7	VI	DSE305	27BCA406DSE12	Exploratory Data Analysis
8	VII	DSE401	28BCA407DSE11	Business Intelligence & Analytics
9	VII	DSE402	28BCA407DSE12	Data Mining & Warehousing
10	VIII	DSE403	28BCA408DSE11	Advanced Data Visualization
11	VIII	DSE404	28BCA408DSE12	Cloud Computing for Data Analytics
12	VIII	DSE405	28BCA408DSE13	Data Security & Privacy

2. Artificial Intelligence & Machine Learning

S.No.	Semester	Course Code	University Nomenclature Course Code	Professional Elective
1	III	DSE*201	26BCA403DSE21	Feature Engineering
2	IV	DSE*202	26BCA404DSE21	Introduction to ML
3	V	DSE301	27BCA405DSE21	Neural Network
4	V	DSE302	27BCA405DSE22	Digital Image Processing
5	V	DSE303	27BCA405DSE23	Natural Language Processing
6	VI	DSE304	27BCA406DSE21	Deep Learning for Computer Vision
7	VI	DSE305	27BCA406DSE22	Predictive Analysis
8	VII	DSE401	28BCA407DSE21	Explainable AI
9	VII	DSE402	28BCA407DSE22	Evolutionary Algorithm
10	VIII	DSE403	28BCA408DSE21	Speech Recognition
11	VIII	DSE404	28BCA408DSE22	Augmented Reality & Virtual Reality
12	VIII	DSE405	28BCA408DSE23	Security Aspects of ML