|| विद्या धनम् सर्वधन: प्रधानम् ||

S. B. JAIN INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NAGPUR

(An Autonomous Institute, Affiliated to RTMNU, Nagpur)

DEPARTMENT OF COMPUTER APPLICATIONS

BOARD OF STUDIES

S. B. JAIN INSTITUTE OF TECHNOLOGY, MANAGEMENT & RESEARCH, NAGPUR

(An Autonomous Institute, Affiliated to RTMNU, Nagpur)

DEPARTMENT OF COMPUTER APPLICATIONS

Vision: Develop creative, competent, and socially responsible computing professionals empowered with a strong foundation in computer applications, driven by innovation, ethics, and real-world problem solving

CURRICULUM SCHEME
FOR
BACHELOR OF COMPUTER APPLICATIONS (BCA)
W.E.F. Batch admitted in Academic Year 2025-26 & Onwards
(NEP COMPLIANT)

Sr. No.	Specialization Options
1	Data Science
2	Artificial Intelligence

1st Year
Semester - I

Scheme of Teaching & Examination of I Semester Bachelor of Computer Applications (BCA)

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs.)
1	PCCBC101T	Programming and Data Structure using C	2	0	0	2	20	30	50	2
2	PCCBC101P	Programming and Data Structure using C Lab	0	0	2	1	50	-	50	-
3	PCCBC102T	Introduction to Hardware and Operating Systems	2	0	0	2	20	30	50	2
4	PCCBC102P	Introduction to Hardware and Operating Systems Lab	0	0	2	1	50	-	50	-
5	PCCBC103T	Mathematical Foundation	2	0	0	2	20	30	50	2
6	OEC	Open Elective-1	2	0	0	2	20	30	50	2
7	VSCBC101P	Office Automation	0	0	4	2	50	-	50	-
8	SECBC101P	Graphic Design	0	0	4	2	50	-	50	-
9	AECBC101T	English Language- Verbal and Non Verbal	2	0	0	2	20	30	50	2
10	IKSBC101T	Indian Knowledge System	2	0	0	2	50	-	50	-
11	VECBC101T	Environmental Studies	2	0	0	2	50	-	50	-
12	CCBC101	Liberal Learning Course-1	1	0	2	2	50	-	50	-
		TOTAL	15	0	14	22	450	150	600	

Revision	BoS Meeting	Date	W. E. F.
-	1st	18-07-2025	2025-26

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1st Year
Semester II

Sr. No.	Course Code	Course Title	Hours per week			Credits	Continuous Evaluation	End Sem Exam	Total	ESE Duration (Hrs.)
			L	**T**	**P**					
1	PCCBC201T	Object Oriented Programming using C++	3	0	0	3	40	60	100	3
2	PCCBC201P	Object Oriented Programming using C++ Lab	0	0	2	1	50	-	50	-
3	PCCBC202T	Probability & Statistics	2	0	0	2	20	30	50	2
4	PCCBC203P	Linux Fundamentals Lab	0	0	2	1	50	-	50	-
5	MDMBC201T	Fundamentals of Economics	2	0	0	2	20	30	50	2
6	OEC	Open Elective-2	3	0	0	3	40	60	100	3
7	VSCBC201P	Computer Animation	0	0	4	2	50	-	50	-
8	SECBC201P	System Administration and IT Infrastructure Services	0	0	4	2	50	-	50	-
9	AECBC201T	English Language- Written Skills	2	0	0	2	20	30	50	2
10	VECBC201T	Indian Constitution	2	0	0	2	50	-	50	-
11	CCBC201	Liberal Learning Course-2	1	0	2	2	50	-	50	-
		TOTAL	**15**	**0**	**14**	**22**	**440**	**210**	**650**	

Scheme of Teaching & Examination of II Semester Bachelor of Computer Applications (BCA)

Revision	BoS Meeting	Date	W. E. F.
-	1st	18-07-2025	2025-26

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BACHELOR OF COMPUTER APPLICATIONS (BCA)
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2nd Year
Semester - III

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs.)
1	PCCBC301T	Data Structures	2	0	0	2	20	30	50	2
2	PCCBC301P	Data Structures Lab	0	0	2	1	50	-	50	-
3	PCCBC302T	Discrete Mathematics and Graph Theory	2	0	0	2	20	30	50	2
4	PCCBC302P	Discrete Mathematics and Graph Theory Lab	0	0	2	1	50	-	50	-
5	MDMBC301T	Fundamentals of ERP	2	0	0	2	20	30	50	2
6	OEC	Open Elective-3	2	0	0	2	20	30	50	2
7	AECBC301T	Personality Development	2	0	0	2	20	30	50	2
8	VSCBC301P	Web Designing & Publishing	0	0	4	2	50	-	50	-
9	FPBC301	Mini Project	0	0	4	2	50	-	50	
10	CCBC301	Liberal Learning Course-3	1	0	2	2	50	-	50	-
		TOTAL	**11**	**0**	**14**	**18**	**350**	**150**	**500**	

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-	Ist	18-07-2025	2025-26

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2nd Year
Semester IV

Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs.)
1	PCCBC401T	Python Programming	3	0	0	3	40	60	100	3
2	PCCBC401P	Python Programming Lab	0	0	2	1	50	-	50	-
3	PCCBC402T	Software Engineering	3	0	0	3	40	60	100	3
4	PCCBC402P	Software Engineering Lab	0	0	2	1	50	-	50	-
5	MDMBC401T	Fundamentals of Artificial Intelligence	3	0	0	3	40	60	100	3
6	OEC	Open Elective-4	3	0	0	3	40	60	100	3
7	AECBC401T	Resume Writing and Interview Preparation	2	0	0	2	20	30	50	2
8	SECBC401T	Numerical and Analytical Aptitude	1	1	0	2	20	30	50	2
9	CEPBC401	Community Engagement Project	0	0	4	2	50	-	50	
10	CCBC401	Liberal Learning Course-4	1	0	2	2	50	-	50	-
		TOTAL	**16**	**1**	**10**	**22**	**400**	**300**	**700**	

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-	1st	18-07-2025	2025-26

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3rd Year
Semester - V

Scheme of Teaching & Examination of V Semester Bachelor of Computer Applications (BCA)										
Sr. No.	Course Code	Course Title	Hours per week			Credits	Maximum Marks			ESE
			L	T	P		Continuous Evaluation	End Sem Exam	Total	Duration (Hrs.)
1	PCCBC501T	Java Programming	3	0	0	3	40	60	100	3
2	PCCBC501P	Java Programming Lab	0	0	2	1	50	-	50	-
3	PCCBC502T	Database Management System	3	0	0	3	40	60	100	3
4	PCCBC502P	Database Management System Lab	0	0	2	1	50	-	50	-
5	PEC-1	Program Elective-1	2	0	0	2	20	30	50	2
6	PEC-2	Program Elective-2	2	0	0	2	20	30	50	2
7	MDMBC501T	Data Communication and Networks	2	0	0	2	20	30	50	2
8	MDMBC501P	Data Communication and Networks Lab	0	0	2	1	50	-	50	-
9	VSCBC501P	Computerized Account Bookkeeping	0	0	2	1	50	-	50	-
10	ELCBC501	Internship	0	0	8	4	50	50	100	-
		TOTAL	**12**	**0**	**16**	**20**	**390**	**260**	**650**	

PROGRAM ELECTIVE-1					
Specialization: Data Science			Specialization: Artificial Intelligence		
Sr. No.	Course Code	Course Name	Sr. No.	Course Code	Course Name
1	PECBC501T	Basics of Data Analytics using Spreadsheet	1	PECBC502T	Machine Learning Fundamentals

PROGRAM ELECTIVE-2					
Specialization: Data Science			Specialization: Artificial Intelligence		
Sr. No.	Course Code	Course Name	Sr. No.	Course Code	Course Name
1	PECBC503T	Data Visualization	1	PECBC504T	Deep Learning

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3rd Year
Semester - VI

Sr. No.	Course Code	Course Title	Hours per week L	T	P	Credits	Maximum Marks Continuous Evaluation	End Sem Exam	Total	ESE Duration (Hrs.)
		Scheme of Teaching & Examination of VI Semester Bachelor of Computer Applications (BCA)								
1	PCCBC601T	SQL and PL/SQL	2	1	0	3	40	60	100	3
2	PCCBC601P	SQL and PL/SQL Lab	0	0	2	1	50	-	50	-
3	PCCBC602T	Android Programming	3	0	0	3	40	60	100	3
4	PCCBC602P	Android Programming Lab	0	0	2	1	50	-	50	-
5	PEC-3	Program Elective-3	2	0	0	2	20	30	50	2
6	PEC-4	Program Elective-4	2	0	0	2	20	30	50	2
7	MDMBC601T	Cyber Security	3	0	0	3	40	60	100	3
8	MDMBC601P	Cyber Security Lab	0	0	2	1	50	-	50	-
9	ELCBC601	Capstone Project	0	0	8	4	50	50	100	-
		TOTAL	12	1	14	20	360	290	650	

PROGRAM ELECTIVE-3

Specialization: Data Science			Specialization: Artificial Intelligence		
Sr. No.	Course Code	Course Name	Sr. No.	Course Code	Course Name
1	PECBC601T	Introduction to Data Science	1	PECBC603T	Reinforcement Learning
2	PECBC602T	Time Series Analysis	2	PECBC604T	Evolutionary Algorithms

PROGRAM ELECTIVE-4

Specialization: Data Science			Specialization: Artificial Intelligence		
Sr. No.	Course Code	Course Name	Sr. No.	Course Code	Course Name
1	PECBC605T	Big Data Analytics	1	PECBC607T	Computer Vision
2	PECBC606T	Exploratory Data Analysis	2	PECBC608T	Natural Language Processing

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-	1st	18-07-2025	2025-26