

**Scheme of Examination for Undergraduate programmes**  
**Subject: BCA**  
**According to**  
**Curriculum Framework for Undergraduate Programmes**

as per NEP 2020 (Multiple Entry-Exit, Internships and Choice Based Credit System)

Sem	Course Type	Course Code	Nomenclature of paper	Credits	Contact hours	Internal marks	End term Marks	Total Marks	Duration of exam (Hrs) T + P
1	CC-A1	B23-CAP-101	Problem Solving through C	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B1	B23-CAP-102	Foundations of Computer Science	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C1	B23-CAP-103	Logical Organization of Computer	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M1	B23-CAP-104	Mathematical Foundations for Computer Science-I	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC1	To be taken from other department							
	SEC1	To be taken from SEC Pool							
VAC1	To be taken from VAC Pool								
AEC1	To be taken from AEC Pool								
2	CC-A2	B23-CAP-201	Object Oriented Programming using C++	3	3	20	50	70	3
			Practical	1	2	10	20	30	3

	CC-B2	B23-CAP-202	Introduction to Web Technologies	3	3	20	50	70	3
			Practical	1	3	10	20	30	3
	CC-C2	B23-CAP-203	Concepts of Operating Systems	3	3	20	50	70	3
			Practical	1	2	5	15	20	3
	CC-M2	B23-CAP-204	Mathematical Foundations for Computer Science-II	1	1	10	20	30	3
			Practical	1	2	5	15	20	3
	MDC-2	To be taken from other department							
	SEC-2	To be taken from SEC Pool							
	VAC-2	To be taken from VAC Pool							
	AEC-2	To be taken from AEC Pool							
3	CC-A3	B23-CAP-301	Java OOP Foundations	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B3	B23-CAP-302	Linux and Shell programming	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C3	B23-CAP-303	Data Base Technologies	3	3	20	50	70	3
			Practical	1	3	10	20	30	3
	CC-M3	To be taken from other department							
	MDC-3	To be taken from other department							
	SEC-3	To be taken							

		from SEC Pool							
	AEC-3	To be taken from AEC Pool							
4	CC-A4	B23-CAP-401	Data Structures and Applications	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B4	B23-CAP-402	Front-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C4	B23-CAP-403	Computer Graphics	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	AEC-4	To be taken from AEC Pool							
	VAC-3	To be taken from VAC Pool							
CC-M4(V)	To be taken from VOC Pool								
5	CC-A5	B23-CAP-501	Software Engineering	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B5	B23-CAP-502	Back-end Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C5	B23-CAP-503	Network Infrastructure and Data Communication Technologies	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-M5(V)	To be taken from VOC Pool							
	SEC-4	Internship @ 4 Credits							

6	CC-A6	B23-CAP-601	Programming using Python	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-B6	B23-CAP-602	Advanced Web Development	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
	CC-C6	B23-CAP-603	Artificial Intelligence	3	3	20	50	70	3
			Practical	1	2	10	20	30	3
CC-M6	To be taken from other department								
CC-M7(V)	To be taken from VOC Pool								
7	CC-H1	B23-CAP-701	Principles & Paradigms of Programming Languages	4	4	30	70	100	3
	CC-H2	B23-CAP-702	Software Testing	4	4	30	70	100	3
	CC-H3	B23-CAP-703	Data Mining and Warehousing	4	4	30	70	100	3
	DSE-H1	B23-CAP-704	NoSQL Databases	4	4	30	70	100	3
		Or							
		B23-CAP-705	Cyber Security	4	4	30	70	100	3
	PC-H1	B23-CAP-706	Practical	4	8	30	70	100	6
	CC-HM1	B23-CAP-707	Cloud Computing	4	4	30	70	100	3
8	CC-H4	B23-CAP-801	Design & Analysis of Algorithms	4	4	30	70	100	3
	CC-H5	B23-CAP-802	Software Project Management	4	4	30	70	100	3
	CC-H6	B23-CAP-803	Emerging Trends in Information Security	4	4	30	70	100	3
	DSE-H2	B23-CAP-804	Big Data	4	4	30	70	100	3
		Or							
	B23-CAP-805	Machine Learning	4	4	30	70	100	3	

PC-H2	B23-CAP-806	Practical	4	8	30	70	100	6
CC-HM2	B23-CAP-807	Internet of Things (IoT)	4	4	30	70	100	3
OR								
CC-H4	B23-CAP-801	Design & Analysis of Algorithms	4	4	30	70	100	3
CC-H5	B23-CAP-802	Software Project Management	4	4	30	70	100	3
CC-HM2	B23-CAP-807	Internet of Things (IoT)	4	4	30	70	100	3
Research	B23-CAP-808	Project/ Dissertation	12				300	