



Progressive Education Society's
Modern College Of Arts, Science & Commerce (Autonomous)
Ganeshkhind, Pune – 411016

NATIONAL EDUCATION POLICY - 2020 (NEP-2020)

Basic and Honors Degree Program in
Bachelor of Computer Applications (Science): B.C.A. (Science)
(Faculty of Science & Technology)

Syllabus for F.Y. B.C.A. 1st and 2nd Semesters (NEP-II)

Semester -I F.Y. B.C.A (Science)						
Course Code	Course Title	Credits		Evaluation		
		TH	PR	CIE	ESE	Total
24BCA11101	C Programming	2		20	30	50
24BCA11102	C Programming Laboratory		2	20	30	50
24BCA11103	Fundamentals of Computers	2		20	30	50
24BCA11104	Fundamentals of Computers Laboratory		2	20	30	50
24BCA11105	Applied Mathematics & Statistics	2		20	30	50
24BCA11106	Applied Mathematics & Statistics Laboratory		2	20	30	50
24OEXXX	Open Elective for Arts Basket BCA(Science) Students may opt the OE courses offered by Arts and Commerce Faculty	2		20	30	50
24BCA11407	Basic Web Designing Laboratory		2	20	30	50
24ENG11506	Developing Communicative Competence	2		20	30	50
24VEC11501	Environmental Sustainability Principle and Values	2		20	30	50
24IKS11501	Foundation Course in Indian Knowledge System	2		20	30	50
Total		14	8	220	330	550

Total Credits: [14(TH) + 8 (PR)] = 22

TH: Theory **PR:** Practical

CIE: Continuous Internal Evaluation **ESE:** External Semester Examination

Semester –II F.Y. B.C.A (Science)

Course Code	Course Title	Credits		Evaluation		
		TH	PR	CIE	ESE	Total
24BCA12101	Advanced C Programming	2		20	30	50
24BCA12102	Advanced C Programming Laboratory		2	20	30	50
24BCA12103	Computer Organization	2		20	30	50
24BCA12104	Computer Organization & Embedded C Programming Laboratory		2	20	30	50
24BCA12105	Database Management System	2		20	30	50
24BCA12106	Database Management System Laboratory		2	20	30	50
24OEXXX	Open Elective for Commerce Basket BCA(Science) Students may opt the OE courses offered by Arts and Commerce Faculty	2		20	30	50
24BCA12407	Web Technology using PHP Laboratory		2	20	30	50
24ENG12506	Mastering English for Professional Purposes	2		20	30	50
24VEC12502	India's Constitution, Democracy, Election and Governance	2		20	30	50
24PED12601	Physical Education	2		20	30	50
Total		14	8	220	330	550

Total Credits: [14(TH) +8(PR)] = 22

TH: Theory **PR:** Practical

CIE: Continuous Internal Evaluation **ESE:** External Semester Examination

Syllabus for S.Y. B.C.A. 3rd and 4th Semesters (NEP-II)

Semester -III S.Y. B.C.A (Science)							
Course Code	Course Type	Course Title	Credits		Evaluation		
			TH	PR	CIA	CSE	Total
24BCA23101	MC	Data Structures	2	-	20	30	50
24BCA23102	MC	Data Structure Laboratory	-	2	20	30	50
24BCA23103	MC	Advanced Database Management System	2	-	20	30	50
24BCA23104	Major IKS	Vedic Mathematics and Computing	2	-	20	30	50
24BCA23201	Minor	Computer Networks	2	-	20	30	50
OR (Choose any one Minor Elective [T])							
24BCA23202	Minor	Statistics for Data Science	2	-	20	30	50
24BCA23203	Minor	Python Programming Laboratory	-	2	20	30	50
24OEXXX	OE	BCA(Science) Students may opt the OE courses offered by Arts and Commerce Faculty	2	-	20	30	50
24BCA23405	VSEC	Advanced Database Management System Laboratory	-	2	20	30	50
24HIN23501	AEC	Hindi Bhasha Shikshan	2	-	20	30	50
24YOG23602	CC	Physical Education and Yoga-II	-	2	20	30	50
24FP23602	FP	Field Project	-	2	20	30	50
Total			12	10	220	330	550
Total Credits: [12 (TH) + 10 (PR)] = 22							
TH: Theory PR: Practical CIA: Continuous Internal Assessment CSE: College Semester Examination							

Semester -IV S.Y. B.C.A (Science)

Course Code	Course Type	Course Title	Credits		Evaluation		
			TH	PR	CIA	CSE	Total
24BCA24101	Major	Core Java	2	-	20	30	50
24BCA24102	Major	Core Java Laboratory	-	2	20	30	50
24BCA24103	Major	Data Science	2	-	20	30	50
24BCA24104	Major	Data Science Laboratory	-	2	20	30	50
24BCA24204	Minor	Internet of Things (IoT)	2	-	20	30	50
24BCA24205	Minor	Internet of Things Laboratory	-	2	20	30	50
OR (Choose any one Minor Elective [T + P])							
24BCA24206	Minor	Data Mining	2	-	20	30	50
24BCA24207	Minor	Data Mining Laboratory	-	2	20	30	50
24OEXXX	OE	BCA(Science) Students may opt the OE courses offered by Arts and Commerce Faculty	2	-	20	30	50
24BCA24405	SEC	Software Engineering	2	-	20	30	50
24HIN24501	AEC	Vaikalpik Hindi	2	-	20	30	50
24YOG24603	CC	Physical Education and Yoga-III	-	2	20	30	50
24CEP24602	CEP	Community Engagements Project	-	2	20	30	50
Total			12	10	220	330	550
Total Credits: [12 (TH) + 10 (PR)] = 22							
TH: Theory PR: Practical CIA: Continuous Internal Assessment CSE: College Semester Examination							

Syllabus for T.Y. B.C.A. (Science) 5th and 6th Semesters (NEP-I)

Semester -V T.Y. B.C.A (Science)							
Course Code	Course Type	Course Title	Credits		Evaluation		
			TH	PR	CIA	CSE	Total
BCA35101	Major	Operating System	4	-	40	60	100
BCA35102	Major	Advanced Java	2	-	20	30	50
BCA35103	Major	Lab on Operating System	-	2	20	30	50
BCA35104	Major	Lab on Advanced Java	-	2	20	30	50
BCA35105	Elective	React JS	2	-	20	30	50
BCA35106	Elective	Lab on React JS	-	2	20	30	50
OR (Choose any one Elective [T + P])							
BCA35107	Elective	Object Oriented Software Engineering	2	-	20	30	50
BCA35108	Elective	Lab on Object Oriented Software Engineering	-	2	20	30	50
BCA35210	Minor	Data mining	2	-	20	30	50
BCA35211	Minor	Lab on Data Mining	-	2	20	30	50
BCA35409	VSC	Lab on Internet of Things (IoT)	-	2	20	30	50
BCA35613	FP	Field Project	-	2	20	30	50
Total			10	12	220	330	550
Total Credits: [10 (TH) + 12 (PR)] = 22							
TH: Theory PR: Practical CIA: Continuous Internal Assessment CSE: College Semester Examination							

Semester -VI T.Y. B.C.A (Science)

Course Code	Course Type	Course Title	Credits		Evaluation		
			TH	PR	CIA	CSE	Total
BCA36101	Major	Android Programming	4	-	40	60	100
BCA36102	Major	Advanced Web Technology	2	-	20	30	50
BCA36103	Major	Lab on Android Programming	-	2	20	30	50
BCA36104	Major	Lab on Advanced Web Technology	-	2	20	30	50
BCA36105	Elective	Node JS	2	-	20	30	50
BCA36106	Elective	Lab on Node JS	-	2	20	30	50
OR (Choose any one Elective [T + P])							
BCA36107	Elective	Software Testing	2	-	20	30	50
BCA36108	Elective	Lab on Software Testing	-	2	20	30	50
OR (Choose any one Elective [T + P])							
BCA36109	Elective	Cloud Computing	2	-	20	30	50
BCA36110	Elective	Lab on Cloud Computing	-	2	20	30	50
BCA36211	Minor	Machine Learning	2	-	20	30	50
BCA36212	Minor	Lab on Machine Learning	-	2	20	30	50
BCA36613	OJT	OJT	-	4	40	60	100
Total			10	12	220	330	550
Total Credits: [10 (TH) + 12 (PR)] = 22							
TH: Theory PR: Practical CIA: Continuous Internal Assessment CSE: College Semester Examination							