



# TECNIA INSTITUTE OF ADVANCED STUDIES

NAAC GRADE "A" INSTITUTE (CYCLE-1)

Approved by AICTE, Ministry of Education Govt. of India,  
Affiliated to G.G.S.I.P. University & Recognized Under Sec. 2(f) of UGC Act 1956.

INSTITUTIONAL AREA, MADHUBAN CHOWK, ROHINI, DELHI-110085

*Department of Information, Communication & Technology*

## Bachelor of Computer Applications (BCA) 3Yrs.

As per Scheme of Examination & Syllabi for BCA Scheme and Syllabus

(w.e.f. Academic Session 2021-22) Affiliated Institutions of GGSIP University, Delhi.

### COs - POs MAPPING (Semester-Wise)

#### FIRST SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 101	Discrete Mathematics	CCT	✓	✓	✓	✓	✓						
BCA 103	Programming Using C' Language	CCT	✓	✓	✓	✓	✓						
BCA 105#	Fundamentals of Computers & IT	CCT	✓	✓	✓	✓	✓						
BCA 107#	Web Technologies	CCT				✓	✓			✓			
BCA 109	Technical Communication	AECC									✓		✓
BCA 171	Practical – I 'C' Prog. Lab	CCP	✓	✓	✓	✓	✓						
BCA 173#	Practical – II IT Lab	CCP	✓	✓									
BCA 175#	Practical-III Web Tech Lab	CCP				✓	✓			✓			
BCA 181+	Bridge Course in Mathematics	BC	✓	✓	✓	✓	✓						

#### SECOND SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 102	Applied Mathematics	CCT	✓	✓	✓	✓	✓						
BCA 104	Web Based Programming	CCT	✓	✓	✓	✓			✓			✓	
BCA 106	Data Structure & Algorithm Using 'C'	CCT	✓	✓	✓	✓	✓						
BCA 108#	Database Management System	CCT	✓	✓	✓	✓			✓	✓			
BCA 110	Environment Studies	AECC										✓	
BCA 132	*MOOC's Course from SWAYAM / NPTEL	SEC-1											
BCA 134	Front End Design Tool VB.Net Lab	SEC-1			✓		✓						
BCA 136	Statistical Analysis using Excel	SEC-1	✓	✓	✓	✓	✓	✓	✓	✓			
BCA 138	Designing Lab Photoshop	SEC-1	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
BCA 172	Practical-IV WBP Lab	CCP	✓	✓	✓	✓			✓			✓	
BCA 174	Practical – V DS Lab	CCP	✓	✓	✓	✓	✓						
BCA176#	Practical – VI DBMS Lab	CCP			✓	✓	✓						

#### THIRD SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 201	Computer Network	CCT	✓	✓	✓	✓	✓	✓	✓	✓			
BCA 203	Computer Organization and Architecture	CCT	✓			✓			✓				✓
BCA 205#	Object Oriented Programming with C++	CCT		✓	✓	✓							
BCA 207	Human Values and Ethics	AECC										✓	
BCAT 211T#	Basics of Python Programming	DSE-1	✓	✓	✓	✓			✓			✓	✓
BCAP 211#	Basics of Python Programming Lab	DSE-1	✓	✓	✓	✓			✓			✓	✓
BCAT 213	Cyber Security	DSE-1	✓	✓	✓	✓	✓	✓	✓	✓			
BCAP 213	Cyber Security Lab.	DSE-1	✓	✓	✓								
BCA 221	Principles of Mgt.& Organizational Behaviour	GE-1	✓	✓	✓								
BCA 223	Open Elective by other Department/Programming	GE-1											
BCA 231	*MOOC's Course from SWAYAM/NPTEL	SEC-2											
BCA 233	Designing Lab Corel Draw	SEC-2	✓					✓					
BCA 235	ASP.Net	SEC-2		✓	✓	✓	✓	✓	✓	✓			
BCA 237	AR/VR	SEC-2	✓	✓	✓	✓	✓						
BCA 239	Cyber Ethics	SEC-2										✓	
BCA 271#	Practical – VII C++ Lab #	CCP		✓	✓	✓							

The whole syllabus is divided into following types:

ABBR.	NEP Course Type	ABBR.	NEP Course Type
CCT	Core Courses Theory	GE	Multidisciplinary(Generic Ele)
CCP	Core Courses Practical	PCE	Programme Core Elective
AEC	Ability Enhancement Courses	SI	Summer Internship
SEC	Skill Enhancement Courses	MOOCs	MOOC Courses
VA	Value Added Courses	PRJ	Minor/ Major Project
NUES	Non Univ. Exam. System	IIR	Industry Internship Report
BC	Bridge Course	DSEC	Discipline Specific Electives

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#### FOURTH SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 202	Java Programming	CCT			✓	✓	✓	✓					
BCA 204	Software Engineering	CCT	✓			✓	✓	✓		✓			
BCA 206	Introduction to Mgt. &Entrepreneurship Development	AECC		✓	✓		✓				✓	✓	✓
BCAT 212	Introduction to Data Science	DSE-2	✓	✓	✓	✓			✓				
BCAP 212	Introduction to Data Science Lab	DSE-2	✓	✓	✓				✓				
BCAT 214	Introduction to Artificial Intelligence	DSE-2	✓	✓		✓		✓		✓			
BCAP 214	Introduction to Artificial Intelligence Lab.	DSE-2	✓	✓		✓		✓		✓			
BCAT 216	Network Security	DSE-2	✓		✓	✓			✓	✓			
BCAP 216	Network Security Lab.	DSE-2											
BCAT 218	Web Development with Python & Django	DSE-2				✓	✓	✓	✓	✓			
BCAP 218	Web Development with Python & Django Lab.	DSE-2				✓	✓		✓	✓			
BCA 222	Digital Marketing	GE-2		✓		✓		✓					
BCA 224	Principles of Accounting	GE-2											
BCA 226	Open Elective by other Programme	GE-2											
BCA 232	Personality Development Skills	SEC-3									✓		✓
BCA 272	Practical –XII Java Lab	CCP			✓	✓	✓	✓	✓				
BCA 274	Practical – IX SE Lab	CCP			✓	✓							

#### FIFTH SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 301	Operating System & Linux Programmin	CCT	✓	✓		✓	✓						
BCA 303	Computer Graphics	CCT	✓			✓		✓		✓			
BCA 305	Cloud Computing	CCT	✓	✓	✓	✓	✓	✓	✓				
BCA 307	Minor Project	AECC											
BCAT 311	Data Visualization & Analytics	DSE-3	✓	✓	✓	✓	✓		✓			✓	
BCAP 311	Data Visualization & Analytics Lab	DSE-3	✓	✓	✓	✓	✓		✓			✓	
BCAT 313	Machine Learning with Python	DSE-3	✓	✓	✓	✓	✓	✓	✓	✓			
BCAP 313	Machine Learning with Python Lab.	DSE-3	✓	✓	✓	✓	✓	✓	✓	✓			
BCAT 315	Web Security	DSE-3	✓	✓	✓	✓	✓	✓	✓	✓			
BCAP 315	Web Security Lab.	DSE-3	✓	✓	✓	✓	✓	✓	✓	✓			
BCAT 317	Web Development with Java & JSP	DSE-3			✓	✓	✓		✓	✓			
BCAP 317	Web Development with Java & JSP Lab.	DSE-3			✓	✓	✓		✓	✓			
BCA 331	*Summer Training Project	SEC-4											
BCA 371	Practical – X Linux - OS Lab	CCP	✓	✓		✓	✓						
BCA 373	Practical – XI CG Lab	CCP	✓			✓		✓		✓			

#### SIXTH SEMESTER

C.CODE	COURSE	NEP CT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
BCA 302	Data Ware Housing & Data Mining	CCT	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
BCA 304#	E- Commerce	CCT	✓	✓	✓	✓		✓	✓	✓		✓	✓
BCA 306	Internet of Things	CCT	✓	✓	✓	✓		✓	✓	✓		✓	✓
BCA 308	***Major Project	AECC											
BCAT 312	Machine Learning with Python	DSE-4	✓	✓	✓	✓	✓	✓	✓	✓			
BCAP 312	Machine Learning with Python Lab.	DSE-4	✓	✓	✓	✓	✓	✓	✓	✓			
BCAT 314	Deep Learning with Python	DSE-4	✓	✓	✓	✓	✓	✓	✓	✓			
BCAP 314	Deep Learning with Python Lab.	DSE-4	✓	✓	✓	✓	✓	✓		✓			
BCA 316	IT Act and Cyber Laws	DSE-4	✓	✓	✓	✓		✓	✓				
BCAT 318	Mobile Application Development	DSE-4	✓	✓	✓	✓			✓				✓
BCAP 318	Mobile Application Development Lab.	DSE-4	✓	✓	✓	✓			✓				✓
BCA 332	Seminar/Conference Presentation	SEC-5											
BCA 372	Practical – XII IOT Lab	CCP	✓	✓	✓	✓		✓	✓	✓		✓	✓
BCA 374	NSS/NCC/Cultural Club/Technical Society/ Technical Clubs(Mandotory)	VA											

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