

## SHANTABEN NAGINDAS KHANDWALA COLLEGE OF SCIENCE

**Programme:** Bachelor of Science Computer Science in Cloud Technology and Information Security

**Academic year:** 2025-26

### Curriculum Framework of First Year under NEP

Level	Sem.	Major		Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Credits	Cumulative Credits
		Mandatory (DSC 1 & DSC 2)	Electives							
4.5	I	Problem Solving using Programming (03) Computer Fundamentals (03)	----	----	Any ONE Open Elective I (02) 1.Principles of management 2.Basics of accounting Any ONE Open Elective II (02) 1.Introduction to Entrepreneurship 2.Necessary statics	Mathematics-I (VEC) (02)  Coding and Computational Thinking-I (SEC) (02)	English – I (AEC) (02) Environmental Science-I (VEC) (02) Indian Knowledge System (IKS) (02)	NSS, Yoga, Cultural, Sports, Music, Performing Arts, DLLE (CC) (02)	22	44 (UG Degree)
	Credits	6	0	0	4	4	6	2		
	II	Data Structures and Algorithms (03) Database Management Systems (03)	----	Foundations of Cloud Technology (02)	Any ONE Open Elective III (02) 1.Digital Marketing 2. Human Resource Management Any ONE Open Elective IV (02) 1.Principles of Banking 2.Production and Operations management	Mathematics – II (VEC) (02) Coding and Computational Thinking-II (SEC) (02)	English – II (AEC) (02) Environmental Science-II (VEC) (02)	NSS, Yoga, Cultural, Sports, Music, Performing Arts, DLLE (CC) (02)	22	
	Credits	6	0	2	4	4	4	2		
	Total credits in 1 <sup>st</sup> year	12	0	2	8	8	10	4	44	
	Cum Cr.	12	0	2	8	8	10	4	44	

\* **Exit Option:** Award of UG Degree in Major with 120-132 credits or Continue with Major and Minor

[FP = Field Project; CEP = Community Engagement and Service; OJT = On Job Training – Internship/Apprenticeship]

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**Curriculum Framework of Second Year under NEP**

Level	Sem.	Major		Minor	OE	VSC, SEC (VSEC)	AEC	OJT, FP, CEP, CC, RP	Cr	Cumulative Credits
		Mandatory (DSC 1 & DSC 2)	Electives							
5.0	III	Python Programming (03) Operating Systems (03) Fundamentals of Information Security (02)		Principles of Virtualization (03)  Linux Administration (03)	<u>Any ONE</u> 1. Personal Financial Planning 2. Design Thinking 3. Social Media Marketing Strategy 4. Introduction to Stock Markets – Trading, Investments & Automations	<b>VSC:</b> Discrete Mathematics (02)	<b>AEC:</b> Hindi/ Marathi/ Gujarati (02)	<b>Co-Curricular Courses (CC) (02)</b>	22	88 (UG Diploma)
	Credits	8	--	6	2	2	2	2		
	IV	Computer Networks (03) Cryptography and Network Security (03) IT Governance, Risk and Compliance (02)		Cloud Web Services (03)  Cryptography and Network Security (03)	<u>Any ONE</u> 1. Personal Financial Planning 2. Design Thinking 3. Social Media Marketing Strategy 4. Introduction to Stock Markets – Trading, Investments & Automations (NOTE: Course opted in Sem III cannot be repeated in Sem IV)	<b>SEC:</b> Coding and Computational Thinking – III (2)	<b>AEC:</b> Hindi/ Marathi/ Gujarati (02)	<b>Co-Curricular Courses (CC) (02)</b>	22	
	Credits	8	--	6	2	2	2	2		
	2 <sup>nd</sup> year	16	0	12	4	4	4	4	44	
	Cum Cr.	28	----	14	12	12	14	8	88	

**\* Exit Option:** Award of UG Diploma in Major and Minor with 80-88 credits and an additional 4 credits core NSQF Course/Internship or Continue with Major and Minor

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**Curriculum Framework of Third Year under NEP**

Level	Sem.	Major		Minor	OE	VSC, SEC (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Credits	Cumulative Credits
		Mandatory (DSC 1, 2 & DSC 3)	Electives							
5.5	V	Automation and Configuration Management (04) Infrastructure Solutions Architect on Cloud (04) Ethical Hacking (03)	Cyber Laws/ Cyber Forensics and Investigation (04)	Containerization using Docker and Kubernetes (03)	----	Introduction to IOT (02)	----	FP/CEP (02)	22	132 (UG Degree)
	Credits	11	4	3	0	2	0	2		
	VI	Malware Analysis (04) DevOps (04) Security and Risk Management (03)	Cloud Application Development and Management /Cloud Security (04)	Cloud migration (03)	----	----	----	OJT (04)	22	
	Credits	11	4	3	0	0	0	4		
	Total credits in 3 <sup>rd</sup> year	22	8	6	0	2	0	6	44	
	Cum Cr.	12+16+22=50	0+0+8=8	2+12+6=20	8+4+0=12	8+4+2=14	10+4+0=14	4+4+6=14	132	

**\* Exit Option: Award of UG Degree in Major with 120-132 credits or Continue with Major and Minor**

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