Scheme & Syllabus of

Bachelor of Science in Cyber Security

(B. Sc. Cyber Security)

Batch 2024-28 onwards

Sanskaram University

Bachelors of Science in Cyber Security (B.Sc. Cyber Security):
It is a Under Graduate (UG) Programme of 4years duration (8 semesters)

PROGRAM OUTCOMES (POs)

Program: B Sc in Cyber Security

1. **Basic knowledge:** An ability to apply knowledge of basic mathematics, science and domain knowledge to solve the computational problems.

2. **Disciplineknowledge**:Anabilitytoapplydiscipline–specificknowledgeto solve core and/or applied computational problems.

3. **Experiments and practice:** An ability to plan and perform experiments and practices and to use the results to solve computational problems.

4. **Tools Usage**: Apply appropriate technologies and tools with an understanding of limitations.

5. **Profession and society**: Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional practice.

6. **Environment and sustainability**: Understand the impact of the computational solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.

7. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the professiona lpractice.

8. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.

9. **Communication:** An ability to communicate effectively.

10. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes.

First Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Mathematics	3	1	0	40	60	100	4
Fundamentals ofComputer and IT	3	1	0	40	60	100	4
Problem Solvingusing C	3	1	0	40	60	100	4
Workshop on Desktop Publishing	0	0	4	60	40	100	2
Problem Solving using C Laboratory	0	0	4	60	40	100	2
Fundamentals of Computer and ITLaboratory	0	0	2	60	40	100	1
English	1	0	0	40	60	100	1
English Practical/Laboratory	0	0	2	30	20	50	1
Human Values and Ethics	3	0	0	40	60	100	3
	13	**3**	**12**			**850**	**22**

Second Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Data Structures	4	0	0	40	60	100	4
Fundamentals of Cyber Security	4	0	0	40	60	100	4
Object Oriented Programming usingC++	4	0	0	40	60	100	4
Object Oriented Programming using C++ Laboratory	0	0	2	60	40	100	1
Data Structures Laboratory	0	0	2	60	40	100	1
Fundamentals of Cyber Security Lab	0	0	4	60	40	100	2
Environmental Science	2	0	0	40	60	100	2
Leadership & Personality Development	3	0	0	40	60	100	3
Technical Writing	0	0	2	40	60	100	1
	17	**0**	**10**			**900**	**22**

Third Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Computer Networks	**3**	1	0	40	60	100	4
Mathematical Foundations for Cryptography	4	0	0	40	60	100	4
Operating Systems	4	0	0	40	60	100	4
Ethical Hacking	3	0	0	40	60	100	3
Computer Networks Laboratory	0	0	2	60	40	100	1
Operating Systems Laboratory	0	0	2	60	40	100	1
Logical Skill Building and Soft Skills	0	0	4	40	60	100	2
Programming in Python lab	0	0	4	40	60	100	2
Project based Learning-1	0	0	2	40	60	100	1
	14	**1**	**14**			**900**	**22**

Fourth Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Database Management System	4	0	0	40	60	100	4
Network Security	4	0	0	40	60	100	4
Digital Forensics	3	1	0	40	60	100	4
Cyber Laws and IPR	3	0	0	40	60	100	3
Database Management System	0	0	4	60	40	100	2
Network SecurityLab	0	0	2	60	40	100	1
Web Technologies	1	0	0	40	60	100	1
Web Technologies Lab	0	0	2	40	60	100	1
Creativity and Design Thinking	0	0	2	40	60	100	1
Project based Learning-2	0	0	2	40	60	100	1
	15	**1**	**12**			**1000**	**22**

Fifth Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Digital Forensics	3	1	0	40	60	100	4
Penetration Testing	3	0	0	40	60	100	3
Computer Hacking & Forensic Investigation	3	1	0	40	60	100	4
DSE-1	3	0	0	40	60	100	3
Cryptography Lab	0	0	2	60	40	100	1
Penetration Testing Lab	0	0	2	60	40	100	1
Quantitative & Qualitative Aptitude Skill Building	3	0	0	40	60	100	3
Entrepreneurship Management	0	0	2	40	60	100	1
Project based Learning-3	0	0	2	40	60	100	1
Summer Training*				40	60	100	2
	15	**2**	**10**			**1000**	**23**

Sixth Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Cyber Threat Intelligence	3	1	0	40	60	100	4
Cyber Security Incident Handling	3	0	0	40	60	100	3
Mobile Ethical Hacking	3	1	0	40	60	100	4
Cyber Threat Intelligence Lab	0	0	2	60	40	100	1
Mobile Ethical Hacking Lab	0	0	2	60	40	100	1
Artificial Intelligence	3	0	0	40	60	100	3
Project Based Learning-4	0	0	2	40	60	100	1
Research Methodology/Business Intelligence	3	0	0	40	60	100	3
	15	**2**	**6**			**800**	**20**

*It is mandatory to take research methodology as an Elective for students who planned to opt forBSC(Honours

)withResearch.

Seventh Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Big Data Security	3	1	0	40	60	100	4
Crypto-Currency Dynamics	3	0	0	40	60	100	3
Wireless And Voip Security	3	1	0	40	60	100	4
Cloud Security	3	0	0	40	60	100	3
Big Data Security Lab	0	0	2	60	40	100	1
Cloud Security Lab	0	0	2	60	40	100	1
Research Project – I	0	0	4	80	120	200	2
Summer Training*				40	60	100	2
	15	**2**	**8**			**900**	**20**

Eighth Semester

Course Title	Load Allocation			Marks Distribution		Total Marks	Credits
	L	T	P	Internal	External		
Cyber Security Risk Management	3	1	0	40	60	100	4
Block Chain Technology	3	0	0	40	60	100	3
IoT Security	3	1	0	40	60	100	4
DEVOPS	3	0	0	40	60	100	3
Big Data Security Lab	0	0	2	60	40	100	1
Cloud Security Lab	0	0	2	60	40	100	1
Research Project – II	0	0	12	360	240	600	6
	15	**2**	**8**			**1200**	**22**