Yogoda Satsanga Mahavidyalaya
JAGANNATHPUR, DHURWA, RANCHI – 834004
Email address: ysmranchi4@gmail.com
(NAAC Accredited, Grade: B++, CGPA: 2.89)

COURSE PLAN

NAME OF THE DEPARTMENT: **BCA/IT**

NAME OF THE FACULTY: **PROF. KHUSHBU KUMARI**

ACADEMIC SESSION: **2023-24**

YEAR: **2024**

PROGRAMME: **BCA/IT**

SEMESTER: **V**

COURSE TYPE: **DISCIPLINE SPECIFIC ELECTIVE**

COURSE NAME: **INFORMATION SEQURITY**

COURSE CODE: **DSE-2**

TOTAL CREDIT: **6**

PROGRAMME OUTCOMES (PO):

PO1: Scientific & Computational Knowledge: - Apply the information on scientific & computational ideas, software engineering and innovation basics.

PO2: Problem Analysis, Design & Implementation: - Identify, formulate and analyze real world problem. Design solution for Software, Hardware & Networking problems and implementation using Software & Network tools.

PO3: Modern tool usage: - Ability to select modern computing tools, skills and techniques necessary for innovative software solutions.

PO4: Project Management: -Comprehend Software Engineering and Technology standards and apply these to prepare own project and system as a part and pioneer in a group.

PO5: Career Development & Entrepreneurship: Classify opportunities, private enterprise dream and use of original thoughts to build worth and means for the betterment of the human being and the world.

PO6: C**ommunication:** Communicate effectively on computational & information Technology activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO7: Ethics: Ability to apply and commit professional Ethics, cyber regulations & control on software piracy in a global economic environment.

PO8: Preparing students for future aspects: Building and improving their creativity, social awareness, and general knowledge.

PO9: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological changes.

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: An ability to apply technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies.

PSO2: Understand the concept of Programing logic, Web designing logic, Signal processing, Image processing, Mobile Applications, Multimedia Media.

PSO3: Develop competencies in various disciplines of technologies such as Server-side Web applications, computer networking, software engineering, database concepts and programming

COURSE OUTCOMES (COs):

CO1: Learn Security, Attacks, Computer Criminals, Security Services, Security Mechanisms.

CO2: Applying Substitution ciphers, Transpositions Cipher, Confusion, diffusion, Symmetric, Asymmetric Encryption. DES Modes of DES, Uses of Encryption, Hash function, key exchange, Digital Signatures, Digital Certificates.

CO3: Secure programs, Non-malicious Program errors, Malicious codes virus, Trap doors, Salami attacks, Covert channels, Control against program

CO4: Evaluating Protection in OS: Memory and Address Protection, Access control, File Protection, User Authentication.

CO5: Analyze Database Security Requirements, Reliability, Integrity, Sensitive data, Inference, Multilevel Security.

CO6: Evaluate and analyze Threats in Networks, Security Controls, firewalls, Intrusion detection systems, Secure e-mails

CO7: Understand Security Planning, Risk Analysis, Organizational Security Policy, Physical Security. Ethical issues in Security: Protecting Programs and data. Information and law.

COURSE TEACHING AND LEARNING ACTIVITIES

A. PEDAGOGY

i. Whiteboard √
ii. Flipped Class √
iii. PPT √

B. COURSE COMPLETION PLAN

UNIT	NO. OF LECTURES		TEST	QUIZ	ASSIGNMENT
	THEORY	PRACTICAL/TUTORIAL			
1	10	5	√		√
2	12	10	√		√
3	12	10	√		√
4	5	5	√		√
5	10	10	√		√
6	8	10	√		√
7	3	10	√		√

A. COURSE DELIVERY PLAN:

UNIT	TOPIC/SUBTOPIC	LECTURE REQUIRED (Theory & Practical)	CO ADDRESSED	ASSIGNMENT/ TEST/QUIZ
1	Security, Attacks, Computer Criminals, Security Services, Security Mechanisms.	10+5	CO1	√
2	Substitution ciphers, Transpositions Cipher, Confusion, diffusion, Symmetric, Asymmetric Encryption. DES Modes of DES, Uses of Encryption, Hash function, key exchange, Digital Signatures, Digital Certificates.	12+10	CO2	√
3	Secure programs, Non-malicious Program errors, Malicious codes virus, Trap doors, Salamiattacks, Covert channels, Control against program	12+10	CO3, CO6, CO7	√
4	Protection in OS: Memory and Address Protection, Access control, File Protection, User Authentication.	5+5	CO4	√
5	Requirements, Reliability, Integrity, Sensitive data, Inference, Multilevel Security.	10+10	CO5	√
6	Threats in Networks, Security Controls, firewalls, Intrusion detection systems, Secure e-mails	8+10	CO6, CO3, C07	√

7	Security Planning, Risk Analysis, Organizational Security Policy, Physical Security. Ethical issues in Security: Protecting Programs and data. Information and law.	**3+10**	**CO7, CO3**	√

B. COURSE OUTCOME ASSESSMENT PLAN

a. DIRECT ASSESSMENT

(Please tick the appropriate column)

COURSE OUTCOME	**ASSESSMENT**				**REMARKS**
	QUIZ	**TEST**	**MID SEMESTER**	**END SEMESTER**	
CO1		√	√		
CO2		√	√		
CO3		√	√		
CO4		√	√		
CO5		√	√		
CO6		√	√		
CO7		√	√		
CO8		√	√		
CO9		√	√		

b. INDIRECT ASSESSMENT (STUDENT SURVEY)

Rate the following aspects of course outcomes. Use the scale 1-3

S. No	**Course Outcome**	**1**	**2**	**3**
1.	CO1			√
2.	CO2		√	
3.	CO3			√
4.	CO4			√
5.	CO5		√	
6.	CO6		√	

1. Average
2. Good
3. Very Good

C. SUGGESTED READINGS

a. TEXT BOOKS

1. P. Pfleeger, S. L. Pfleeger; Security in Computing, Prentice Hall of India, 2006
2. W. Stallings; Network Security Essentials: Applications and Standards, 4/E, 201

b. REFERENCE BOOKS

1. Samuel Bowne Hands on Cryptography with Python

c. VIDEO RESOURCE

d. WEB RESOURCES

1. **https://www.geeksforgeeks.org/what-is-information-security/**
2. **https://www.javatpoint.com/cyber-security-tutorial**

e. E-RESOURCE