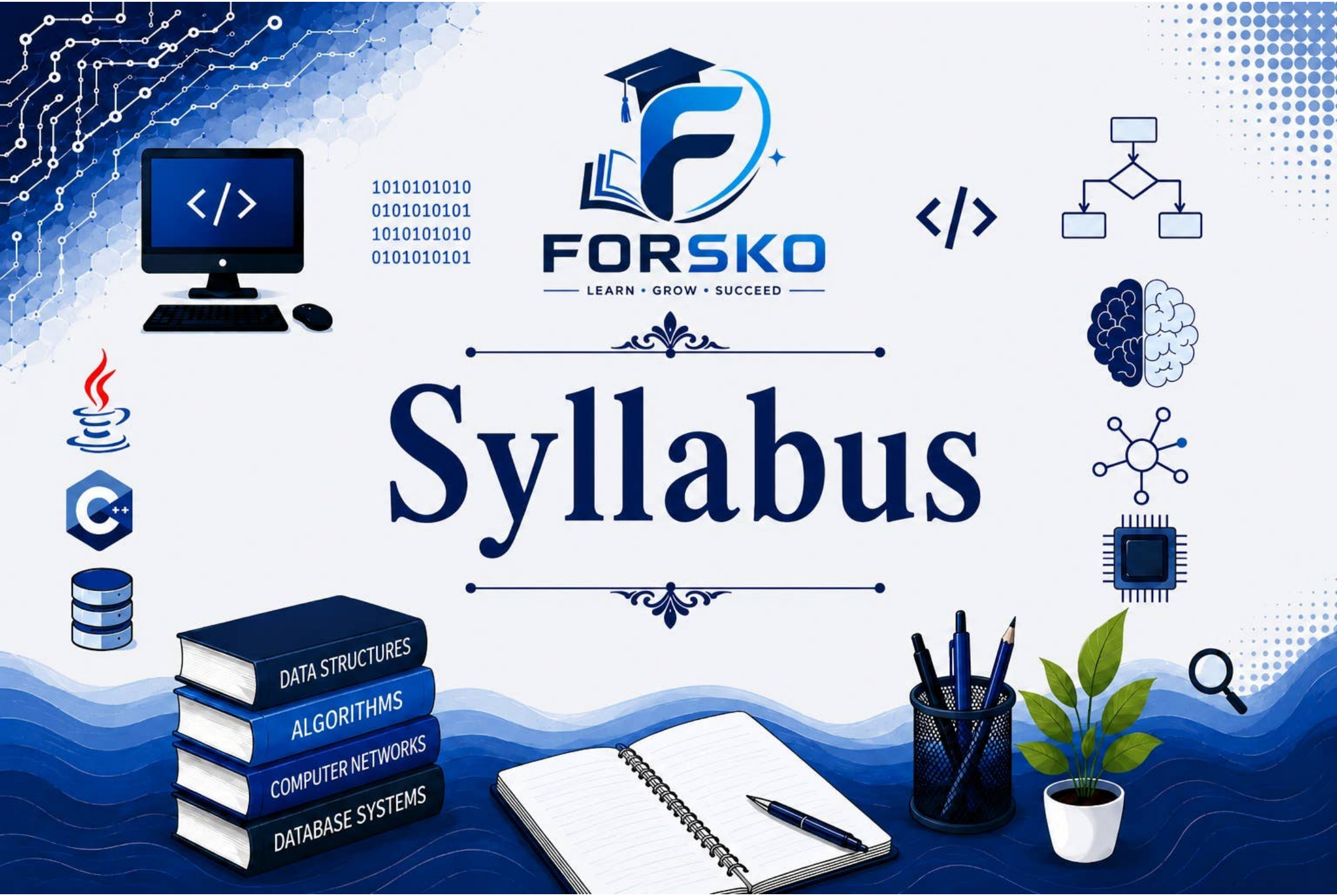
1010101010
0101010101
1010101010
0101010101
FORSKO
LEARN • GROW • SUCCEED
Syllabus
DATA STRUCTURES
ALGORITHMS
COMPUTER NETWORKS
DATABASE SYSTEMS

Minor Course: Computer Network and Advanced python Programming

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.5	V	**112265**	**Computer Network and Advanced python Programming**	2	30	2Hrs.	30

Course Objectives:	1. To provide the knowledge of basic of Computer Network. 2. To understand importance of OSI model in Computer Networking. 3. To introduce Python string formatting and list operations. 4. To enable students to use Python data structures such as lists, dictionaries, tuples and sets. 5. To develop basic programming and data handling skills using Python built-in functions and methods.
Course Outcomes:	Students will be able to - 1. Learn the fundamental concept of networking 2. Study the various deices and OSI model 3. Apply Python string formatting, list operations, indexing, slicing, built-in functions and list methods to solve simple programming problems. 4. Create and manipulate Python data structures such as dictionaries, tuples, sets and frozen set using appropriate functions and methods.

Unit System	Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies
Unit I	**Introduction to Networking:** Introduction, Need of Computer Network, Communication Protocol, Types of Network: LAN, MAN, WAN **Network Topology:** Ring, Bus, Star & Mesh.	8 Hrs	8 Marks	Use any pedagogical technique suitable for the topic
Unit II	**Network Devices:** Repeater, Hub, Switch, Bridge, Router **OSI Reference Model:** Introduction, OSI Model, Functions of seven layers of OSI.	7 Hrs	7 Marks	
Unit III	**String Methods:** Formatting Strings, Lists, Creating Lists, Basic List Operations, Indexing and Slicing in Lists, Built-In Functions Used on Lists, List Methods, The del Statement **Dictionaries:** Creating Dictionary, Accessing and Modifying key:value Pairs in Dictionaries, Built-In Functions Used on Dictionaries, Dictionary Methods, The del Statement	8 Hrs	8 Marks	
Unit IV	**Tuples and Sets:** Creating Tuples, Basic Tuple Operations, Indexing and Slicing in	7 Hrs	7 Marks	

	Tuples, Built-In Functions Used on Tuples, Relation between Tuples and Lists, Relation between Tuples and Dictionaries, Tuple Methods, Usingzip() Function, Sets, Set Methods, Traversing of Sets, Frozenset.			
References :	**Course Material/Learning Resources** **Text books:** 1. Computer Networks (Fourth Edition) - Andrew S. Tanenbaum (PHI) 2. Data Communications and Networking, 4th Edition, Behrouz A Forouzan. McGraw-Hill 3. Computer Networking; A Top Down Approach Featuring The Internet, 2nd Edition, Kurose James F., Ross W. Keith PEARSON EDUCATION ASIA **Reference Books:** 1. Business Data Communication & Networking (fifth edition) - Fitzerland& Dennis. 2. Data and Computer Communication – William Stallings (Pearson) 3. Data Communication and Networking – Behrouz A. Forouzan (McGraw Hill) 4. Computer Network & Internet - Douglas E. Comer (Pearson) **Weblink to Equivalent MOOC on SWAYAM if relevant:** 1. https://onlinecourses.swayam2.ac.in/ntr25_ed44/ 2. https://onlinecourses.nptel.ac.in/noc25_cs02/ 3. https://onlinecourses.nptel.ac.in/noc25_cs15/			

Assessment Rubric: Internal for Theory Course (Minor)

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI THEORY EXAMINATION B.Sc. III, SEMESTER – V (NEP)			
Theory	**Course Code:** 112265	**Course Title:Computer Network and Advanced python Programming**	**Max Marks: 20**
Sr. No.	**Assessment Criteria**		**Marks**
1	Any Two of the Activity (weekly or monthly assignment/ Unit Test/Class Test) **(CAT-1)**		**10**
2	Any One of the Activity includes Open Book Test, MCQ Tests, / Theory related Class activity/Task etc.) etc. **(CAT-2)**		**5**
3	Participation in any one Activity includes Quiz, Seminar, Group Discussion, Industry visit, Case Study, Mini project, innovative work, etc. based on Theory Course. Involvement in subject related activities such as Conference, Workshop, Coding Competitions etc. **(CAT-3)**		**5**