

Vivekanand College, Kolhapur

(An Empowered Autonomous Institute)

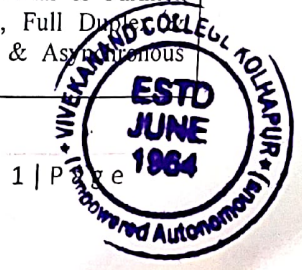
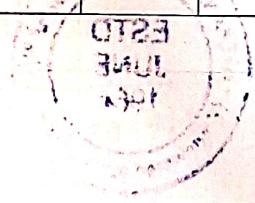
Department of Computer Science

Annual Teaching Plan for Academic Year: 2025-26

Name of the teacher: **Dr. V. B. Waghmare**

UG		PG	
Course Code	Course Title	Course Code	Course Title
2DSC03CSC31	Operating System-I	RMD19CSC11	Research Methodology
2DSC03CSC41	Operating System-II	DSC19CSC42	Natural Language Processing
DSC03CSC51	Computer Network		
DSC03CSC61	Advanced Computer Network		

Month: June 2025				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total		
B.Sc. III	7	16	23	Unit-1 Introduction to Computer Network Definition, Goals, Application, Basic Concept: Entities, Layers, Protocols, Computer Network. Classification Of Computer Network:	Transmission Techniques: Scale, Connection Method, Functional Relationship, Network Topology, services provided Protocols, Network Architecture: Protocol Hierarchy, Information flow design issues for the layers, Merits and demerits of layer architecture, service primitives, standardization network.
B.Sc. II	7	16	23	Introduction What Operating Systems Do, Computer-System Organization, Computer-System Architecture, Operating-System Structure Operating-System Operations	Process Management, Memory Management, Storage Management, Protection and Security Distributed Systems, Special-Purpose Systems, Computing Environments, Operating-System Services, User Operating-System Interface, System Calls, Types of System Calls, System Programs, Virtual Machines, Operating-System Generation, System Boot
M.Sc. I	10		10	Unit-1 Fundamentals of Research Methodology:	Meaning, Objectives, Motivation and Types of Research, Research Approaches. Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Importance of Knowing How Research is done? Criteria of Good Research, research process and steps involved Hypothesis: Meaning, function and types of hypotheses; Null/Alternative hypothesis, Literature survey, sources of information, review. Ethical issues and intellectual property rights. Publication process, selection of journals, citation index, impact factor, h-index, i10 index, Journal Cite Score, Google scholar index, Research gate, Academia, etc.
Month: July 2025				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total		
B.Sc. III	10	16	26	Unit-2 Data Communication Objectives, four analysis, Band limited signal, Maximum data rate & channel.	Transmission Impairments: Attenuation Distortion, Delay, Dispersion, Noise. Data Transmission modes: Serial & Parallel Simplex, Half Duplex, Full Duplex Simplex. Synchronous & Asynchronous Transmission.



B.Sc. II	7	16	23	Process Management Processes- Process Concept, Process Scheduling, Operations on Processes, Interprocess Communication, Examples of IPC Systems	Thread- Threads
M.Sc. I	10		10	Unit-2 Interpretation and Report Writing	Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation. Significance of Report Writing, Different Steps in Writing Report, Layout of the Research Report, Types of Reports. Mechanics of Writing a Research Report: Writing preliminaries, main body of research, references and bibliography. Precautions for Writing Research Reports. Meaning and importance of workshop, seminar, conference, symposium, etc. in research. Plagiarism- Concept and significance of plagiarism. Writing tools: Grammarly, Answerthepublic, Quillbot, Notion, Buzzsumo, Copyscape, Chatgpt, ginger. Referencing and citation tools: Endnote, Mendeley, Jabref, Zotero.

Month: August 2025

Course Lectures Practicals Total

B.Sc. III	12	16	28
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Module/Unit:

Sub-units planned

B.Sc. II	7	16	23
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CPU Scheduling- Scheduling Criteria, Scheduling Algorithms

(First-Come, First-Served Scheduling, Shortest-Job-First Scheduling, Priority Scheduling, Round-Robin Scheduling, Multilevel Queue Scheduling)

M.Sc. I	10		10
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Unit-3 Computer Applications & Unit-4 Research Methods in Computer Science

Database Search engines, Softwares for Computer Science
Research Areas, Emerging Technologies and Future Directions, Research Design, Data Collection: Quantitative and qualitative data, Data Analysis, Statistical analysis in computer science research, Qualitative data analysis methods, Data visualization techniques.

Month: September 2025

Course Lectures Practicals Total

B.Sc. III			
B.Sc. II	7	16	23

Module/Unit:

Sub-units planned

Semester Examination

Month: October 2025

Course Lectures Practicals Total

B.Sc. III	10	4	14
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Module/Unit:

Sub-units planned

Unit-1 Reference Model
ISO-OSI: principle of layers, data link, Network, Transport, Session, Presentation & Application (Each layer with its function,

TCP/IP: Concept, history, Layers: Host to network, Internetwork, Transport, Application. Comparative study of ISO & TCP/IP



				Protocol, Design issues, Components),	
B.Sc. II				Semester Examination	
M.Sc. II				Research Seminar	Research Seminar
Month: November 2025				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total	Unit-3 File Sharing and Security: File sharing essential: Understanding file sharing model, using and finding shares, Hiding & controlling share access, special & administrative shares, Creating and Publishing Shared Folders, Creating shares by using: Windows explorer, Computer Management, Publish shares in active directory Managing Shares	Permissions: Understand shares permission, Configuring share permission, Managing File And Folder Permission: File & Folder ownership, permission inheritance for files & folders, Configuring files and folder permission, Auditing files & folder Access. Kerboes protocol.
B.Sc. III	10	16	26		
B.Sc. II	7	16	23	Memory Management Main Memory-Swapping, Contiguous Memory Allocation, Paging, Structure of the Page Table, Segmentation, Example: The Intel Pentium,	Virtual Memory-Demand Paging, Copy-on-Write, Page Replacement (FIFO, Optimal, LRU, MFU,LFU), Allocation of Frames, Thrashing, Memory-Mapped Files
M.Sc. II				Research Seminar	Research Seminar
Month: December 2025				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total	Unit-4 Managing Group Policy Managing Group: Understanding group, By default Group, Creating Group, Adding Member To Group, Delete Group, Modifying Group.	Group policy setting, Group policy architecture. Implementation Group Policy: Working with local group policy, Group policy management console, Default group policy object, managing group policy inheritance & processing.
B.Sc. III	10	16	26		
B.Sc. II	7	16	23	Storage Management	File-System Interface-File Concept, Access Methods, Directory Structure, File-System Mounting, File Sharing, Protection,
M.Sc. II				Research Seminar	Research Seminar
Month: January 2026				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total	Understanding Group Policy: Local & Active Directory Group Policy	Group Policy
B.Sc. III	10	16	26		
B.Sc. II	7	16	23	File-System Structure, File-System Implementation, Directory Implementation, Allocation Methods, Free-Space Management,	Efficiency and Performance, I/O Systems-I/O Hardware, Application I/O Interface, Kernel I/O Subsystem
Month: February 2026				Module/Unit:	Sub-units planned
Course	Lectures	Practicals	Total	Final Practical Examination	
B.Sc. III					

B.Sc. II	7	16	23	Linux Scripting Writing and running the shell script, read, echo, decisions and loop control structure, file tests, exit, command line arguments,	exporting shell variable, arrays, shell function, writing data entry script to create data files, data validations before storing on hard disk.
Month: March 2026				Module/Unit:	Sub-units planned
M.Sc.II	Lectures	Practicals	Total	Final Examination	


Dr. V. B. Waghmare




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Head of Department

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