Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Computer Applications

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	THEORY END SEM University Exam	THEORY Two Term Exam	THEORY Teachers Assessment*	PRACTICAL END SEM University Exam	PRACTICAL Teachers Assessment*
CA101	GE	Computer Fundamentals	3	0	0	3	60	20	20	0	0

Legends: L – Lecture; T – Tutorial/Teacher Guided Student Activity; P – Practical; Q/A – Quiz/Assignment/Attendance; MST – Mid Semester Test.

*Teacher Assessment shall be based on following components: Quiz/Assignment/Project/Participation in class activities, given that no component shall exceed more than 10 marks.

Course Education Objectives (CEOs):

- To create basic understanding of Computer System concepts.
- To get familiar with the basic understanding of memory organization concepts.
- To provide a basic knowledge of various types of software.
- To understand basic concept of Computer System architecture and representation.
- To get familiar with the compilation environment.

Course Outcomes (COs):

After the successful completion of this course students will be able to: -

- Define various concepts of computer system.
- Know about the memory organization inside the computer system.
- Describe various types of software and related concepts.
- Explain computer system architecture basics and about number systems.
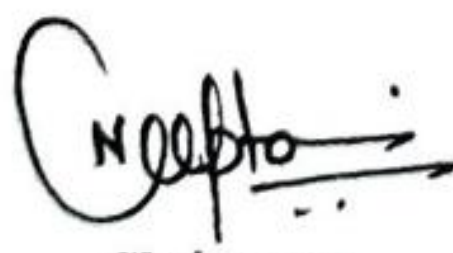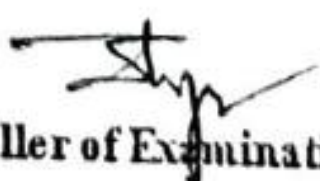- Define concept of compiler, interpreter, and related environmental concepts.

Syllabus

Unit-I

Digital Computer and it types, Functional units of Computer System, limitations and applications of computers. Computer System Hardware, Computer Memory, Input and Output Devices, Interaction between User and Computer,

Unit-II

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COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
CA101	GE	Computer Fundamentals	3	0	0	3	60	20	20	0	0

Introduction to Memory units, memory Hierarchy design and its characteristics, types of main memory (RAM ROM chips), types of RAM and ROM, Auxiliary memory (Hard Disk Drive), Associative memory, Cache memory, Virtual Memory

Unit-III

System & Application Software, Introduction to Free and Open-Source Software, Definition of Computer Virus, Types of Viruses, Use of Antivirus software.

Unit-IV

CPU, register, Bus architecture, Instruction set, Memory & Storage Systems, I/O Devices, Introduction of Number Systems like Binary, Octal and Hexadecimal number systems, Character Codes (BCD, ASCII, EBCDIC).

Unit-V

Aspects of compilation, compiler, interpreter, assembler, code optimization. Software Tools: Software tools for program development, editors, debug monitors, programming environment, user interfaces
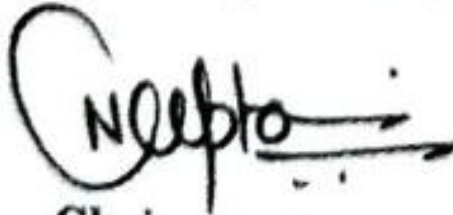
Text Books:

1. V. Rajaraman, N. Adabala, "Fundamentals of Computers", Sixth Edition, PHI Learning, 2015.
2. P. Norton, "Introduction to Computers", Seventh Edition, TMH, 2017
3. David A. Patterson and John L. Hennessy, "Computer Organization and Design: The Hardware/Software Interface", Morgan Kaufmann, RISC-V Edition, 2017
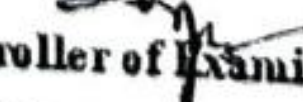
Reference Books:

1. John P. Hayes, "Computer Architecture and Organization", Third Edition, Tata McGraw Hill, 2012
2. H. Donald Sanders, "Computers Today", Tata McGraw-Hill, 2016

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