Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Computer Applications

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*
GUCA101	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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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