

**GOVT. HOLKAR AUTONOMOUS SCIENCE
COLLEGE INDORE
(CENTER FOR EXCELLENCE)**

2016-19 and onwards



Affiliated to Devi Ahilya Vishwavidyalaya, Indore

Syllabus for B.Sc.

Computer Science

(Faculty of Computer Science)

DEPARTMENT OF COMPUTER SCIENCE

Govt. Holkar Science College, Indore
Department of Computer Science
B.Sc. Computer Science

Session- 2016-2019

(Effective from July 2016 session for 2016-2019 batches onwards)

Marks Distributions

| CLASS /SEMESTER | B. Sc.(CS) | CCE | MIN. MARKS | TERM END EXAM | MIN. MARKS | TOTAL 100% | MIN. MARKS |
|-----------------|---|-----|------------|---------------|------------|------------|------------|
| FIRST SEM. | CS-1101–Computer Organization | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-1101P- Practical on Computer Org. & MS Office | — | — | — | — | 50 | 17 |
| SECOND SEM. | CS-1201- Programming & Problem Solving through C. | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-1201P- Practical on C Language | — | — | — | — | 50 | 17 |
| THIRD SEM. | CS-2301-Data Structure using C Lang. | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-2301P-Practical on Data Structure | — | — | — | — | 50 | 17 |
| FOURTH SEM. | CS-2401- Data Base Management System | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-2401P-Practical on Data Base Management System | — | — | — | — | 50 | 17 |
| FIFTH SEM | CS-3501Object Oriented Programming using C++ | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-3501P-Practical on C++ | — | — | — | — | 50 | 17 |
| SIXTH SEM | CS-3601 Computer Networks | 15 | 5 | 85 | 28 | 100 | 33 |
| | CS-3601P-Practical on Web Technology | — | — | — | — | 50 | 17 |

B.Sc. I Semester
Session 2016-2019
CS-1101 COMPUTER ORGANIZATION

UNIT- I

Evolution of Computers and Computer Generations, Computer Classification, Processing speed of a computer, Technology Trends, Measuring Computer Performance, MIPS, von Neumann Machine Architecture, Functional Units and Components in Computer Organization. Computers – Block diagram, Memory addressing, capability of a CPU, Word length of a computer, Basic components of a Digital Computer - Control unit, ALU, IO Subsystem of a Computer, Bus Structures, Uses of Program Development, Tool, Editor, Compiler, Assembler, Interpreter

UNIT- II

Number systems – Decimal Number system, Binary number system and Hexa decimal number system, 1's & 2's complement, Representation of Positive and Negative Numbers, Binary Fixed-Point Representation, Arithmetic operation on Binary numbers, Overflow & underflow. Floating Point Representation, Codes, ASCII. Logic Gates, AND, OR, NOT GATES and their Truth tables, NOR, NAND & XOR gates. Counters, Registers, Shift Registers

UNIT- III

Storing data and Program in Memory, Memory Hierarchy in a Computer, Internal Organization of Semiconductor Main Memory Chips, Semiconductor Memory RAM and ROM, Auxiliary Memory Peripheral Devices, Secondary Storage Memory, Magnetic Memories and Hard Disk Optical Disks and CD Memories.

UNIT -IV

Algorithm, Flowchart, Logic Development & Problem solving. Algorithms for simple problems involving conditional manipulation of memory variables. The 8085 Programming Model, 8085 Hardware Model, Block Diagram and uses of Registers, Accumulator, Flag, Program counter and stack pointer ,How to write, assemble and execute a simple program: Illustrate Program – Adding two hexadecimal numbers.

UNIT V

Input Devices, Keyboard, Mouse. Output Devices, CRT Monitor, LCD Displays, Touch Screen Displays, Print Devices, Multiprocessor and Multi core Architecture. Flynn Classification SISD, SIMD, MISD, MIMD.

Text Book

1. Computer Fundamentals – B. Ram – New Age International Publishers

Reference Books:

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1. Rashid Sheikh, "Computer Organization & Architecture"
 2. William Stallings, "Computer Organization & Architecture", Pearson.
 3. BARTEE, "Digital Computer Fundamentals" TMH Publication
 4. MORRIS MANO, "Computer System Architecture" PHI
 5. W. Hayes, Computer Architecture, McGraw-Hill
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