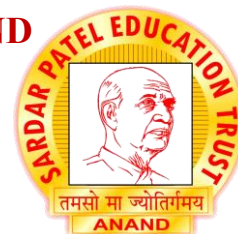




**C P PATEL AND F H SHAH COMMERCE COLLEGE, ANAND
(AUTONOMOUS)**

(Managed by Sardar Patel Education Trust, Anand)
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NAAC Reaccredited CGPA – 3.30 – Grade A+



Revised Syllabus as per NEP 2020 with effect from the Academic Year 2026-2027

**Post Graduate Diploma in Computer Application (PGDCA)
Semester – I**

Course Code	PGDCAN1C03	Title of the Course	Computer Fundamentals
Total Credits	02 Credits	Hours per Week	02 Hours / Week

Course Learning Outcomes (CLOs)

CLO 1	To provide basic understanding of logical organization and architecture of a computer.
CLO 2	To introduce fundamental concepts related to number systems and representation of information.

Course Content

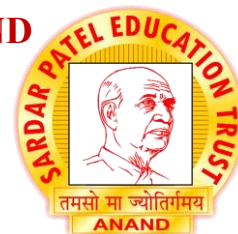
Unit No.	Description	Weightage (%)
1.	Introduction to Computer Systems, Number Systems, Representation of Information and Processor Organization - Block diagram of a simple computer and significance of different functional units - Definitions of the terms: hardware, software - Binary, octal, decimal, and hexadecimal number systems - Conversion of numbers: binary to decimal, decimal to binary - Addition and subtraction of binary numbers - Representation of integers - Character codes (ASCII, Unicode) - Instruction execution cycle - CPU organization & Array processors	50%
2.	Memory Organization, Addressing Techniques and I/O Devices - Primary memory: Introduction to RAM and ROM, Cache, Registers - Secondary memory: Various types and organization of secondary storage devices such as magnetic disks, optical disks, flash memories - Addressing techniques like Immediate, Direct, Indirect, Register, Indexing and Stack and specimen or format and its explanation with example). - Specimen or Format of trading account, profit & loss account and balance sheet. - Common types of Input / Output devices, such as Monitors, keyboard, mouse, Printers (Line, Dot Matrix, Inkjet, Laser), Scanners	50%



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Teaching – Learning Methodology

Multiple teaching approaches: lecture and discussion, exploration and inquiry, cooperative group work, demonstrations, and presentations

Examination Evaluation Pattern

Sr. No.	Particulars	Weightage (%)
01	Continuous and Comprehensive Evaluation (CCE) (Formative Assessment)	50%
02	Semester End Evaluation (SEE) (Summative Assessment)	50%
	TOTAL	100%

Specifications for CCE and SEE

Sr. No.	Details of the Evaluation Pattern	Marks
01	Continuous and Comprehensive Evaluation (CCE) (Formative Assessment)	
	A Assignments	10
	B Active Learning Activities	05
	C Attendance	05
	D Written Examination (01 Hour)	30
	(A + B + C + D)	50 Marks
	Note: • For 02 Credit Courses, the Formative Assessment for students must be from 25 Marks. Thus, the total obtained marks from A + B + C + D (50 Marks) will be divided by 02.	25 Marks
02	Semester End Evaluation (SEE) (Summative Assessment)	
	E Written Examination (01 Hour)	25 Marks
	TOTAL (For 02 Credit Courses)	50 Marks

Rubrics – Based Assessment for Assignments (10 Marks)

Excellent	09 – 10 Marks	Accurate, error-free, logically presented, timely submission
Good	07 – 08 Marks	minor errors and good conceptual clarity
Average	05 – 06 Marks	basic understanding or partially correct
Basic	03 – 04 Marks	limited clarity, noticeable mistakes, incomplete content
Poor	01 – 02 Marks	Inadequate conceptual clarity, incorrect content
Below Poor	Zero Marks / NA	content is irrelevant / Not Attempted / Not Submitted

Note:

- Assignments may be taken in forms of written project, computerized and online suggested courses / certificates as per the decision made by the respective faculties of the courses.

Rubrics – Based Assessment for Active Learning Activities (05 Marks)

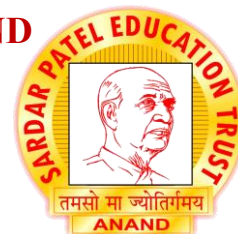
Excellent	05 Marks	explanation is clear, detailed and covered all keys
Good	04 Marks	good conceptual clarity, minor details may be missing
Average	03 Marks	basic explanation or partially correct
Basic	02 Marks	limited clarity, noticeable mistakes, lacks depth
Poor	01 Mark	Poorly presented or not understandable
Below Poor	Zero / NA	content is irrelevant / Not Attempted / Not Submitted



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Note:

- Active Learning Activities may be taken in forms of classwork, viva, oral presentations, PowerPoint presentations, role play, collaborative problem solving, debates, group discussions, online tests, Q&A, case studies, etc. as per the decision made by the respective faculties of the courses.

Rubrics – Based Assessment for Attendance (05 Marks)

As per the Rules and Regulations provided by the Academic Section of Sardar Patel University, Vallabh Vidyanagar, for the students studying in all departments and colleges.

Reference No.: E – 3 / 3127; dated: 07-03-2024.

<https://www.spuvvn.edu/orbit-cdn/uploads/circulars/Circular-NEP-InternalExamMarks-March-April24.pdf>

Excellent	05 Marks	more than 90% (Minimum 27 Hours for 02 Credits Courses)
Good	04 Marks	80% - 89% (24 to 26 Hours for 02 Credit Courses)
Average	03 Marks	70% - 79% (21 to 23 Hours for 02 Credit Courses)
Poor	Zero / NA	less than 70% (NOT ELIGIBLE TO APPEAR FOR EXAM)

Note:

- Students with below 70% of attendance must submit their written application to their respective class coordinators with genuine reasons and evidence (in case of working or medical emergencies). Students must not pursue dual degree programmes that clash with the college's timings.

Rubrics – Based Assessment for Mid-Semester Examination (30 Marks)

ANY ONE UNIT OR 50% OF THE SYLLABUS - 15 Marks Each Question

Excellent	13 – 15 Marks	Demonstrates complete understanding of all concepts with accurate explanations. Good understanding with minor errors. Basic understanding of concepts. Limited understanding with several errors. Very poor understanding.
Good	10 – 12 Marks	Solves all numerical problems accurately with proper steps. Minor calculation errors. Solves basic problems correctly. Attempts problems but with major mistakes.
Average	07 – 09 Marks	Correctly explains computer organization, memory, processor, I/O and addressing techniques with examples. Mostly correct explanations. Basic technical knowledge. Incomplete technical explanations.
Basic	04 – 06 Marks	Applies concepts effectively to practical situations and analyses accurately. Good application with minor issues. Average application ability. Limited application skills.
Poor	01 – 03 Marks	Well-organized, neat presentation with proper diagrams and terminology. Good presentation with few mistakes. Acceptable presentation. Answers are complete, accurate and supported with examples where required.
Below Poor	Zero Marks / NA	completely irrelevant or Not Attempted

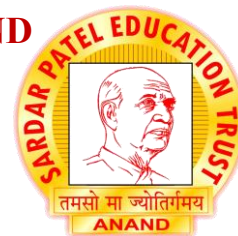
Note:

- Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.



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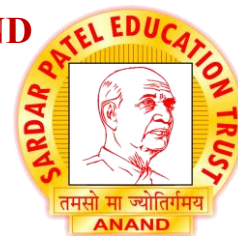


Rubrics – Based Evaluation Pattern for End-Semester Examination (25 Marks)		
Multiple Choice Questions (05 Marks) – 01 Mark Each from all Units		
Excellent	01 Mark	the chosen option is correct, no errors in response
Below Poor	Zero Marks / NA	chosen option is incorrect, completely irrelevant, multiple options chosen / Not Attempted
UNIT I - 10 Marks Each Question		
Excellent	09 – 10 Marks	Comprehensive explanation of computer organization, hardware, software, number systems, binary arithmetic, data representation, instruction execution cycle and processor organization with accurate terminology, neat diagrams and suitable examples.
Good	07 – 08 Marks	Good understanding of computer organization and number systems with only minor conceptual or calculation errors. Appropriate explanation with relevant examples.
Average	05 – 06 Marks	Basic explanation of computer systems, hardware/software, number systems and processor concepts, but lacks depth, clarity or complete examples.
Basic	03 – 04 Marks	Limited understanding of computer architecture, number conversions or processor organization with incomplete explanations and several errors.
Poor	01 – 02 Marks	Incorrect or irrelevant explanation of computer organization and processor concepts. Unable to perform number system conversions correctly.
Below Poor	Zero Marks / NA	completely irrelevant or Not Attempted
UNIT II - 10 Marks Each Question		
Excellent	09 – 10 Marks	Clear and detailed explanation of memory hierarchy, RAM, ROM, Cache, Registers, secondary storage devices, addressing techniques and I/O devices with proper examples, diagrams and technical terminology.
Good	07 – 08 Marks	Good understanding of memory organization, storage devices, addressing modes and I/O devices with only minor mistakes in explanation or examples.
Average	05 – 06 Marks	Basic understanding of memory organization and addressing techniques with partial correctness and limited examples.
Basic	03 – 04 Marks	Limited clarity and incomplete explanation of memory hierarchy, storage devices, addressing techniques or I/O devices.
Poor	01 – 02 Marks	Poor understanding of memory organization, addressing techniques and input/output devices with incorrect explanations.
Below Poor	Zero Marks / NA	completely irrelevant or Not Attempted
Note:		
- Multiple Choice Questions of 05 Marks will be based on Bloom's Taxonomy Level 1 & 2. - Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.		



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PLO – CLO Mapping						
Computer Fundamentals						
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO 1	03	02	01	01	01	01
CLO 2	03	03	02	01	01	02

Note:

- High: **03**; Moderate: **02**; Low: **01**; No Mapping: **00**

Suggested References and E-Resources for Further Reading	
- Tanenbaum A.S., Structured Computer Organization, Prentice-Hall of India Pvt Ltd, 5th edition, 2005. - Rajaraman V, Computer Fundamentals, Prentice-Hall of India Pvt Ltd(4th Edition), 2003. - P.K. Sinha, Priti Sinha, Computer Fundamentals, 6th Edition, 2003. https://www.coursera.org/ https://www.shreeacademy.net.in/ https://onlinecourses.swayam2.ac.in/	
