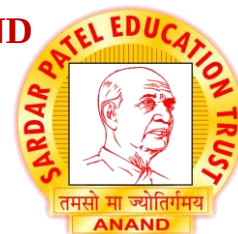




**C P PATEL AND F H SHAH COMMERCE COLLEGE, ANAND
(AUTONOMOUS)**

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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

Semester – II

Course Code	PGDCAN1C02	Title of the Course	PYTHON PROGRAMMING
Total Credits	04	Hours per Week	04 Hours / Week

Course Learning Outcomes (CLOs)

CLO 1	Understand the fundamentals of computer programming, algorithms, flowcharts, and Python basics. Demonstrate knowledge of variables, data types, and input/output operations.
CLO 2	Apply Python operators, expressions, decision-making, and looping statements. Develop programs using appropriate control structures.
CLO 3	Develop Python programs using functions, built-in functions, methods, and string operations. Apply modular programming concepts effectively.
CLO 4	Design Python programs using lists and dictionaries. Perform operations on data structures to solve programming problems efficiently.

Course Content

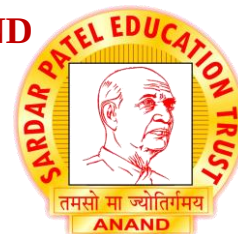
Unit No.	Description	Weightage (%)
1.	Introduction to Computer Programming • Introduction to computers and computer programming • Problem analysis, flow charts, algorithms • Introduction to the Python programming language and development environment • Variables, literals, data types, Assignment, Input and output, comments	25%
2.	Expressions and Control Structures • Operators, evaluation of expressions • The range type • The if statement, The while loop, The for loop • The break and continue statements	25%
3.	• Functions and Methods • Concept of functions and methods • Built-in functions • Operations on strings	25%
4.	Lists and Dictionaries • Introduction to lists • Operations on lists	25%



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	• Introduction to dictionaries • Operations on dictionaries • Operations on strings	
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Teaching – Learning Methodology

The course would be taught / learnt through ICT (e.g. Power Point Presentation, Audio-Visual Presentation), Lectures, Quizzes, Assignments, Case Study and Browsing E- Resources & Practical Learning.

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 Multiple Choice Questions	05
	C Attendance	05
	D Written Examination (01 Hour)	30
	(Formative Assessment) (A + B + C + D)	50 Marks
02	Semester End Evaluation (SEE) (Summative Assessment)	
	E Written Examination (02 Hours)	50 Marks
	TOTAL(For 04 Credit Courses)	100 Marks

Rubrics – Based Assessment for Assignments (10 Marks)

Excellent	09 – 10 Marks	Assignment demonstrates comprehensive understanding of networking concepts. Content is accurate, well-organized, and supported with appropriate examples, diagrams, and references. Presentation is neat, original, and submitted on time.
Good	07 – 08 Marks	Assignment demonstrates good understanding of the topic with minor errors or omissions. Content is organized and relevant, with adequate examples and diagrams. Presentation is clear and timely.
Average	05 – 06 Marks	Assignment covers basic concepts but lacks depth or contains some inaccuracies. Organization is satisfactory with limited supporting examples or diagrams. Presentation needs



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		improvement.
Basic	03 – 04 Marks	Assignment shows limited understanding of the topic. Content is incomplete, poorly organized, and contains several errors. Few or no supporting examples are provided.
Poor	01 – 02 Marks	Assignment demonstrates minimal effort and understanding. Content is largely irrelevant, inaccurate, or copied. Presentation is inadequate.
Below Poor	Zero Marks / NA	Assignment not submitted, plagiarized, or does not address the assigned topic.

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 Multiple Choice Questions (05 Marks)

05 Multiple Choice Questions – 01 Mark Each (05 Marks)

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

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 54 Hours for 04 Credits Courses)
Good	04 Marks	80% - 89% (48 to 53 Hours for 04 Credit Courses)
Average	03 Marks	70% - 79% (42 to 47 Hours for 04 Credit Courses)
Poor	Zero / NA	Less than 70% (Less than 42 Hours) (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.



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Rubrics – Based Assessment for Mid-Semester Examination (30 Marks)		
Any Two Unit or 50% of The Syllabus - 15 Marks Each Question		
Excellent	13 – 15 Marks	Accurate, error-free, logically presented, timely submission
Good	10 – 12 Marks	Minor errors and good conceptual clarity
Average	07 – 09 Marks	Basic understanding or partially correct
Basic	04 – 06 Marks	Limited clarity, noticeable mistakes, incomplete content
Poor	01 – 03 Marks	Inadequate conceptual clarity, incorrect content
Below Poor	Zero Marks / NA	Content is irrelevant / Not Attempted / Not Submitted
Note: Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.		

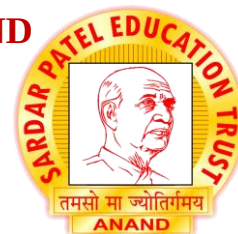
Rubrics – Based Evaluation Pattern for End-Semester Examination (50 Marks)		
06 Multiple Choice Questions – 01 Mark Each (06 Marks)		
Excellent	01 Mark	The chosen option is correct, no errors in response
Below Poor	Zero Marks / NA	Chosen option is incorrect, completely irrelevant, multiple options chosen / Not Attempted
Short Question (12 Marks) – 6 Question from all Units		
Excellent	02 Marks	Demonstrates accurate understanding of concepts related to questions. Provides correct and clear explanations with complete answers.
Good	01 Mark	Shows partial understanding of concepts with some correct steps or explanations. Minor errors or incomplete answers may be present.
Poor	00 Mark	Incorrect, irrelevant, or no response provided.
UNIT I - 08 Marks Each Question		
Excellent	06 – 08 Marks	Demonstrates comprehensive understanding of computer programming fundamentals, problem analysis, algorithms, flowcharts, Python environment, variables, data types, input/output, assignments, and comments. Explanation is accurate with suitable examples and correct program logic.
Good	04 – 06 Marks	Demonstrates good understanding of Python basics with minor errors. Includes relevant examples and clear explanations.



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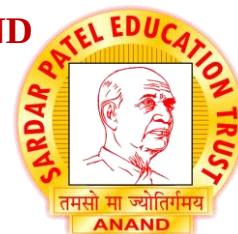
Average	03 – 04 Marks	Demonstrates basic understanding of programming concepts but lacks clarity or complete explanations. Some important concepts are missing.
Basic	02 – 03 Marks	Limited understanding of Python fundamentals. Answer is partially correct with inadequate explanation or syntax errors.
Poor	01 – 02 Marks	Minimal understanding of the topic. Answer contains major conceptual or programming errors.
Below Poor	Zero Marks / NA	Question not attempted, irrelevant answer, or copied content without understanding.
UNIT II - 08 Marks Each Question		
Excellent	06 – 08 Marks	Demonstrates comprehensive understanding of Python operators, expressions, range, conditional statements, loops, break and continue statements, functions, built-in functions, and string operations. Provides correct syntax, examples, and program logic.
Good	04 – 06 Marks	Demonstrates good understanding of control structures and functions with minor errors. Includes relevant examples and explanations.
Average	03 – 04 Marks	Demonstrates basic understanding of expressions, loops, and functions but lacks clarity or complete logic.
Basic	02 – 03 Marks	Limited understanding of control structures and functions. Answer is partially correct with syntax or logical errors.
Poor	01 – 02 Marks	Minimal understanding of the topic. Answer contains major errors and lacks relevant concepts.
Below Poor	Zero Marks / NA	Question not attempted, irrelevant answer, or copied content without understanding.
UNIT III - 08 Marks Each Question		
Excellent	06 – 08 Marks	Demonstrates comprehensive understanding of lists, dictionaries, string operations, and their various operations. Explanation includes appropriate examples, correct syntax, and efficient program implementation.
Good	04 – 06 Marks	Demonstrates good understanding of lists and dictionaries with minor errors. Includes relevant examples and explanations.
Average	03 – 04 Marks	Demonstrates basic understanding of lists and dictionaries but lacks complete explanation or program logic.
Basic	02 – 03 Marks	Limited understanding of Python data structures. Answer is partially correct with syntax or logical errors.
Poor	01 – 02 Marks	Minimal understanding of the topic. Answer contains major errors and lacks relevant concepts.



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Below Poor	Zero Marks / NA	Question not attempted or answer is irrelevant.
UNIT IV - 08 Marks Each Question		
Excellent	06 – 08 Marks	Demonstrates comprehensive understanding of Python lists, dictionaries, and string operations. Explains concepts accurately with appropriate examples, correct syntax, and efficient program implementation.
Good	04 – 06 Marks	Demonstrates good understanding of lists, dictionaries, and string operations with minor errors. Includes relevant examples and clear explanations.
Average	03 – 04 Marks	Demonstrates basic understanding of lists and dictionaries but lacks clarity, complete explanations, or proper program logic. Some important concepts are missing.
Basic	02 – 03 Marks	Limited understanding of Python data structures. Answer is partially correct with inadequate explanation or syntax errors.
Poor	01 – 02 Marks	Minimal understanding of the topic. Answer contains major programming or conceptual errors and lacks relevant content.
Below Poor	Zero Marks / NA	Question not attempted, irrelevant answer, or copied content without understanding.

Note:

- Multiple Choice Questions of 10 Marks will be based on various levels of Revised Bloom's Taxonomy.
- Written Examination questions will be based on various levels of Revised Bloom's Taxonomy.

PLO – CLO Mapping								
PYTHON PROGRAMMING								
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8
CLO 1	3	3	2	1	0	0	0	1
CLO 2	3	3	3	2	0	0	0	1
CLO 3	3	3	3	2	1	0	0	1
CLO 4	3	2	2	2	1	0	0	1

Note:
High: 03; Moderate: 02; Low: 01; No Mapping: 00

Suggested References and E-Resources for Further Reading

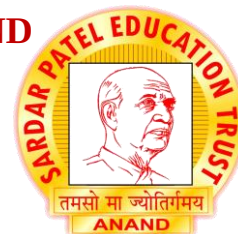
- Downey Allen: Think Python, O'Reilly, 2012.
- Lutz Mark: Learning Python, 4th Edition, O'Reilly, 2009.
- Het land Magnus: Beginning Python– From Novice to Professional, Apress, 2005.



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| • Lutz Mark: Python–Pocket Reference, 4thEdition, O’Reilly,2009. |
| • https://docs.python.org/3/ |
| • https://www.w3schools.com/python/ |
| • https://realpython.com/ |
