



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
 (AUTONOMOUS – GRANT – IN – AID)
 Affiliated to Sardar Patel University
 VALLABH VIDYANAGAR-388120



NEP Structure B.Sc. Semester: VI
(Under Choice Based Credit Scheme)
Syllabus with Effect from: 2026-27

Course Type	Course Code	Name of Course	T / P	Credit	Contact Hours Per Week	Exam Duration in hrs	Component of Marks		
							Internal	External	Total
Major Course									
Computer Science	US06MACSC01	Python Programming	T	4	4	2:30	50	50	100
	US06MACSC02	PHP Using MySql	T	4	4	2:30	50	50	100
	US06MACSC03	Practical	P	4	8	3	50	50	100
Skill Enhancement Course/Internship/Dissertation	UAS6SECSC01	INTERNSHIP	=	4	-	-	50	50	100



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Bachelor of Science (Computer Science)
B.Sc. (CS) Semester VI

Course Code	US06MACSC01	Title of the Course	Python Programming
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	1. To learn the fundamentals of the Python programming language. 2. To study the concepts of object-oriented programming in Python. 3. To learn exception handling and file handling in Python. 4. To understand how to access files and databases from Python	
Course Content		
Unit	Description	Weightage* (%)
1.	Introduction & Basic Concepts of Python – Python: Introduction, Features and Applications – Variables and Comments in Python – Data types, operators, keywords, literals – I/O statements and Number formatting	25%
2.	Control Statements & Inbuilt Functions (Data types) – Flow control statements: If, while, for – Break, continue and pass statements – Operations and functions: Strings, Lists, Tuples, Sets, Dictionary	25%
3.	Functions, Modules and Exceptions – Built-In functions – User Defined functions: advantages, arguments, local and global variables, global keyword, first class object, recursion – Lambda function – Modules – Exceptions – Dates	25%
4.	File I/O handling – Regex – File and I/O – Types of Files – Modes of File – CSV File creating, reading and writing with: Delimiters, Initial Space and Quotes – Update, Dialects, DictWriter() & DictReader(), Line Terminator	25%



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Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Examination	50%
2.	University Examination	50%

Course Outcomes: Having completed this course, the learner will be able to develop	
1.	Ability to develop computer programs using the Python programming language.
2.	Knowledge of manipulating different Python data types.
3.	Ability to develop object-oriented programs using Python.
4.	Basic knowledge of exception handling, file handling and database access in Python.



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Suggested References:	
Sr. No.	References
1.	Paul A. DeBarry: Head First Python, O'Reilly Media, Inc., 2010.
2.	Martin C. Brown: The Complete Reference Python, McGraw Hill, 2018.
3	David M. Beazley: Python Essential Reference, Pearson Addison-Wesley Professional, 1996.
4	Timothy Budd, Exploring Python Book, McGraw Hill, 2009.
5	Aaul Barry, Head First Python: A Brain-Friendly Guide, Greyscale Indian Edition, 2013.
6	Bill Lubanovic , Introducing Python-Modern Computing in Simple Packages –, O'Reilly Publication, 2014.
7	Introduction to Computer Science Using Python-Charles Dierbach, Wiley Publication Learning with Python “, Green Tea Press, 2002.
8	John Paul Mueller, Beginning Programming with Python for Dummies Paperback– 2015.

On-line resources to be used if available as reference material	
On-line Resources	
Python Tutorial/Documentation www.python.org 2010 http://docs.python.org/3/tutorial/index.html http://www.javapoint.com/python-tutorial	



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Bachelor of Science (Computer Science)
B.Sc. (CS) Semester VI

Course Code	US06MACSC02	Title of the Course	PHP Using MySql
Total Credits of the Course	4	Hours per Week	4

Course Objectives:	1. To introduce students to fundamental concepts related to PHP programming. 2. To impart basic knowledge of working with advanced features of PHP and interaction with forms. 3. To provide basic understanding of database access.
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Course Content		
Unit	Description	Weightage* (%)
1.	PHP Programming Concepts -1 – Introduction to open source – Advantage and capabilities of open source – Introduction to PHP: features, adding PHP to HTML – PHP Syntax – PHP Variables: Local, Global & Static variables – PHP \$ and \$\$ variable – Constant, echo and print commands – PHP Data types and Operators – Control Structures: Conditional Structure & Looping Structures – Break and Continue – Arrays	25%
2.	PHP Programming Concepts-2 – In-built functions: Strings, Date and Time and Sorting Array – User Defined Functions – GET, POST and Request method – Cookies and Session Management – Class and Object in PHP – Error Handling	25%



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3.	Working with Forms, Files, Ajax, XML, CSS and Bootstrap - Form: Creating, Validation using PHP Filter and Regular Expression. - Files: Include, Upload & Download file and Generate PDF File. - PHP with XML - PHP with Ajax - PHP with CSS and Bootstrap	25%
4.	Accessing Databases - Working with MySQL using PhpMyAdmin - PHP-MySQL Connectivity - PHP-MySQL Functions	25%

Teaching-Learning Methodology	Blended learning approach incorporating traditional classroom teaching and online /ICT-based teaching practices.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Examination	50%
2.	University Examination	50%

Course Outcomes: Having completed this course, the learner will be able to develop	
1.	Understanding of the fundamental concepts related to PHP programming.
2.	Basic knowledge of working with advanced features of PHP and interaction with forms.
3.	Understanding of database access in PHP.



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Suggested References:	
Sr. No.	References
1.	Essential PHP Tools Modules, extensions and Accelerators–David Sklar–APRESS (SPD), 2008.
2.	PHP advanced for the World Wide Web – Larry Edward Ullman – peachpit press, 2002.
3	Advance PHP for Web professionals – Christopher Cosentino – Pearson education, 2000.
4	Expert PHP 5 Tools – Dirk Merkel – PACKT(SP), 2010.
5	Learning PHP 5 – David Sklar –O'Reilly (SPD), 2004.
6	Beginning PHP 5.1 For Begginers – Iyan Byross, Sharanam Shah- The Team (SPD). 2010.



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Bachelor of Science (Computer Science)
B.Sc. (CS) Semester-VI

Course Code	US06MACSC03	Title of the Course	Practical
Total Credits of the Course	4	Hours per Week	08

Course Objectives:	1. To learn the fundamentals of the Python Programming Language. 2. To learn PHP web developments scripting language.
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Course Content		
Part	Description	Weightage (%)
I	Practical based on US06MACSC01	50%
II	Practical based on US06MACSC02	50%

Teaching-Learning Methodology	Hands on training through ICT tools.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Examination	50%
2.	University Examination	50%

Course Outcomes: After completing this course, the learner will be able to gain	
1.	knowledge of Python Programming Language.
2.	knowledge of PHP web development scripting language.

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