FIRST YEAR OF BACHELOR OF SCIENCE MINOR PHYSICS REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: PROGRAMMING WITH PYTHON-II
SEMESTER-II
W.E.F. 2023-2024

RECOMMENDED BY THE BOARD OF STUDIES IN PHYSICS
AND
APPROVED BY THE ACADEMIC COUNCIL

Devrukh Shikshan Prasarak Mandal's
Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce and Vid. Dadasaheb Pitre Science College, Devrukh (An Autonomous College Affiliated with University of Mumbai)

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Academic Council Item No: **03 dated 8 July 2023**

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Physics
Name of the Class	:	First Year
Semester	:	Second
Paper	:	II
No. of Credits	:	02
Title of the Course	:	Programming with Python-II
Course Code	:	S110PHT
Name of the Vertical in adherence to NEP 2020	:	Minor
Eligibility for Admission	:	Any 12th Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for SEE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2023-2024
Ordinances /Regulations (if any)		

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Syllabus for First Year of Bachelor of Science
(With effect from the academic year 2023-2024)

SEMESTER-II   **Paper No.– Minor(CS) – II**
Course Title: Programming in Python-II,   **No. of Credits – 02**
Type of Vertical: Minor   **COURSE CODE: S110PHT**
Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Know python concepts like files, exceptions, GUI, database connection etc.
CLO-02	Understand	Understand procedures to use files, regular expressions, GUI elements etc
CLO-03	Apply	Handle common exceptions
CLO-04	Analyze	Develop GUI for an app
CLO-05	Evaluate	Perform database connectivity
CLO-06	Create	Write intermediate python programs

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(With effect from the academic year 2023-2024)

SEMESTER-II   **Paper No.– Minor(CS) – II**
Course Title: Programming in Python-II,   **No. of Credits – 02**
Type of Vertical: Minor   **COURSE CODE: S110PHT**

	COURSE CONTENT		
Module	**Content**	**Credits**	**No. of Lectures**
1	**Python File Input-Output:** Opening and closing files, various types of file modes, reading and writing to files, manipulating directories. Iterables, iterators & their applications. **Exception handling:** Introduction, various keywords to handle exceptions such try, catch, except, else, finally, raise. **Regular Expressions:** Concept of regular expression, various types of regular expressions, using match function.	**01**	**15**
2	**GUI Programming in Python (using Tkinter/wxPython/Qt)** Introduction, Advantages & GUI library. Layout management, events and bindings, fonts, colours, drawing on canvas (line, oval, rectangle, etc.) Widgets such as : frame, label, button, check button, entry, list box, message, radio button, text, spin box etc. **Database connective-ity in Python:** Installing MySQL connector, accessing connector module, using connect, cursor, execute & close functions, reading single & multiple results of query execution, executing different types of statements, executing transactions, understanding exceptions in	**01**	**15**
	Total	**02**	**30**

Note:- The introductory and practical oriented portion of most of the topics will be taught in flipped classroom mode.

Reference books:
1. Paul Gries, Jennifer Campbell, Jason Montojo, Practical Programming: An Introduction to Computer Science Using Python 3, Pragmatic Bookshelf, 2/E 2014
2. Techmax publication book
3. James Payne , Beginning Python: Using Python 2.6 and Python 3, Wiley India, 2010 2.
4. Lukaszewski, MySQL for Python: Database Access Made Easy, Pact Publisher, 2010

Access to the Course

The course is available for all the students admitted for Bachelor of Science.

Methods of Assessment

The assessment pattern would be 60:40, 60% for Semester End Examination (SEE) and 40% for Continuous Internal Assessment (CIA). The structure of the SEE and CIA would be as recommended by the Board of Studies and approved by the Board of Examination and the Academic Council of the college.

Pattern of Evaluation

The Examination/Evaluation pattern shall be framed by the Board of Examination with its final approval from the Academic Council of the College.

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