BANGALORE UNIVERSITY
Jnana Bharathi, Bengaluru-560056

OPEN ELECTIVE FOR

II SEMESTER B.C.A./B.SC. COMPUTER SCIENCE –N.E.P.- 2020
FROM THE ACADEMIC YEAR 2021-22

Open Elective Topic: Python Programming

Credits:	3= 3: 0: 0 (L: T: P)	**No. of lecture hours/week:**	3 Hours per week
Total Contact Hours:	42 Hours	**Exam Duration:**	2 ½ Hours
Theory Marks	60	**Internal Assessment Marks**	40

Course Learning Objectives:

This course will enable the students to:
1. Understand the core syntax and semantics of Python programming language.
2. Equip students with the need for working with the strings and functions.
3. Familiarize the process of structuring the data using lists, dictionaries, tuples and sets.
4. Illustrate the use of regular expressions and built-in functions to navigate the file system.
5. Analyse the applicationsof Python in real life.

Unit 1 :	Introduction to Python:	10 hours
Python interpreter/shell, indentation; identifiers andkeywords; literals, numbers, and strings; operators (arithmetic operator, relational operator,Boolean operator, assignment, operator, ternary operator and bitwise operator) andexpressions, Associativity, Data Types, Indentation, Comments, Reading Input, Print Output, Type Conversions, The type() Function and Is Operator, Dynamic and Strongly Typed Language

Unit 2 :	Creating Python Programs:	11 hours
Control Flow Statements, The if Decision Control Flow Statement, The if…else Decision Control Flow Statement, The if…elif…else Decision Control Statement, Nested if Statement, The while Loop, The for Loop, The continue and break Statements, Functions, Built-In Functions, Commonly Used Modules, Function Definition and Calling the Function, The return Statement and void Function, Scope and Lifetime of Variables, Default Parameters, Command Line Arguments.

Unit 3 :	Strings, Lists, Built-in data structures:	11 hours
Strings, Creating and Storing Strings, Basic String Operations, Accessing Characters in String by Index Number, String Slicing and Joining, String Methods, Formatting Strings, Lists, Creating Lists, Basic List Operations, Indexing and Slicing in Lists, Built-In Functions Used on Lists, List Methods, The del Statement, Tuples, Sets, Dictionary

Unit 4 :	Real Life Applications:	10 hours
Applications of python in linguistic, literary textual data, ERP , e-commerce systems, Simple Case studies.

Text Books:
1. Taneja, S., Kumar, N. (2018). Python Programming- A modular Approach. Pearson Education India.
2. Gowrishankar S, Veena A, "Introduction to Python Programming", 1st Edition, CRC Press/Taylor & Francis, 2018. ISBN-13: 978-0815394372

Reference Books:
1. Kamthane, A. N., &Kamthane, A.A. (2017) Programming and Problem Solving with Python, McGraw Hill Education.
2. Liang, Y. D. (2013). Introduction to Programming using Python. Pearson Education.

CO-ORDINATOR
MCA Programme
Bangalore University