NARASIMHA REDDY ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad

Accredited by NAAC with A Grade, Accredited by NBA

COMPUTER SCIENCE AND ENGINEERING (CYBER SECURITY)

QUESTION BANK

Course Title : Python Programming

Course Code : CY2105PC

Regulation : NR21

Course Objectives:

1. Learn Syntax and Semantics and create Functions in Python.
2. Handle Strings and Files in Python.
3. Understand Lists, Dictionaries and Regular expressions in Python.
4. Implement Object Oriented Programming concepts in Python.
5. Build Web Services and introduction to Network and Database Programming in Python.

Course Outcomes (CO's)

CO 1: Examine the python objects, standard types, operators, built-in functions and methods for sequence data types, dictionaries and sets in python.

CO 2: Understand the file system, exception handling, modules and packages in python.

CO 3: Demonstrate the use of regular expressions and discuss the multithreaded programming in python.

CO 4: Illustrate the GUI programming and Web programming concepts in python.

CO 5: Understand how to communicate with databases using Object Relation Managers (ORMS) in python.

UNIT–I

PYTHON BASICS, NUMBERS AND SEQUENCES

S.No	Questions	BT	CO	PO
	Part – A (Short Answer Questions)			
1	Write in brief about identifiers in python.	L1	CO1	PO1
2	What are python objects?	L1	CO1	PO1
3	List the applications of python.	L1	CO1	PO1
4	Define sequences.	L1	CO1	PO1
5	Write about arithmetic and logical operators.	L1	CO1	PO1
6	List the unsupported types in python.	L1	CO1	PO1
7	What is type casting?	L1	CO1	PO1
8	List various internal types in python.	L1	CO1	PO1
9	Define list and tuple.	L1	CO1	PO1

10		Define dictionary and set.	L1	CO1	PO1
Part – B (Long Answer Questions)					
11	a)	What is python? Explain the features of python.	L2	CO1	PO1, PO2
	b)	Discuss about. (i) How to write comments in python script. (ii) The rules for selecting an identifier name	L2	CO1	PO1, PO2
12	a)	Discuss how memory management is done in python	L2	CO1	PO1, PO2
	b)	List and explain the standard types and other built-in types in python.	L2	CO1	PO1, PO2
13	a)	Discuss about various internal types in python.	L2	CO1	PO1, PO2
	b)	Discuss the categorization of standard types in python.	L2	CO1	PO1, PO2
14	a)	List the various standard types and unsupported types in python.	L2	CO1	PO1, PO2
	b)	Explain how to create, access and delete the strings with examples.	L2	CO1	PO1, PO2
15	a)	What is a string? Explain the operators of strings.	L2	CO1	PO1, PO2
	b)	Write about different built-in functions of lists and tuples.	L2	CO1	PO1, PO2
16	a)	Discuss about any ten built-in methods of strings with example.	L4	CO1	PO1, PO2
	b)	Write a python program to count the total number of vowels, consonants, white spaces and special symbols in a user entered string.	L3	CO1	PO1, PO2
17	a)	Explain about the following built-in methods of dictionary. (i) fromkeys () (ii) update () (iii) keys () (iv) values () (v) clear () (vi) copy ()	L4	CO1	PO1, PO2
	b)	Explain about various operators and functions of sets.	L2	CO1	PO1, PO2

UNIT–II

FILES, EXCEPTIONS AND MODULES

S.No	Questions	BT	CO	PO
Part – A (Short Answer Questions)				
1	What are built-in functions for files?	L1	CO2	PO1
2	Define the file system of python.	L1	CO2	PO1
3	What are file built-in-attributes?	L1	CO2	PO1
4	What are standard files?	L1	CO2	PO1
5	List some of the modules related to files.	L1	CO2	PO1
6	Define try-finally statement.	L1	CO2	PO1
7	What is a module in python?	L1	CO2	PO1
8	What are the different accessing methods for files.	L1	CO2	PO1
9	How to import a module in python?	L1	CO2	PO1
10	Discuss about namespaces.	L1	CO2	PO1

Part – B (Long Answer Questions)					
11	a)	Explain about built-in function [open ()] and Access modes for file objects.	L2	CO2	PO1, PO2
	b)	Explain the built-in methods and attributes of files in python.	L2	CO2	PO1, PO2
12	a)	Explain the file processing methods and directory methods in file system of python	L2	CO2	PO1, PO2
	b)	Explain about the command line arguments in python.	L2	CO2	PO1, PO2
13	a)	Write a program to print the sum of two numbers using command line arguments.	L3	CO2	PO1, PO2
	b)	Explain about detecting and handling exceptions?	L2	CO2	PO1, PO2
14	a)	List and explain the various standard exceptions in python	L4	CO2	PO1, PO2
	b)	Explain try_except_finally statement with an example.		CO2	PO1, PO2
15	a)	Explain how to raise exceptions in python with an example.	L2	CO2	PO1, PO2
	b)	Explain about assertions in python.	L2	CO2	PO1, PO2
16	a)	What is module and explain how to modules are imported in python.	L3	CO2	PO1, PO2
	b)	Discuss about the namespaces in python.	L2	CO2	PO1, PO2

UNIT–III

REGULAR EXPRESSIONS AND MULTI THREADED PROGRAMMING

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		Define regular expressions.	L1	CO3	PO1
2		List out various Regular expression symbols.	L1	CO3	PO1
3		List out various Regular expression special characters.	L1	CO3	PO1
4		List the Re module functions.	L1	CO3	PO1
5		Write a regular expression pattern to match the following strings: "bat," "bit," "but," "hat," "hit," or "hut."	L2	CO3	PO1
6		What is multithreaded programming?	L1	CO3	PO1
7		What are processes?	L1	CO3	PO1
8		What are threads?	L1	CO3	PO1
9		What is GIL?	L1	CO3	PO1
10		How to access threads from python.	L1	CO3	PO1
Part – B (Long Answer Questions)					
11	a)	Explain the various common regular expression symbols with an example.	L2	CO3	PO1, PO2
	b)	Explain the functionality of the following functions in Regular expressions. (i) finditer() (ii) findall() (iii) group() (iv) groups()	L2	CO3	PO1, PO2
12	a)	Explain the regular expression special characters with an example.	L2	CO3	PO1, PO2

	b)	Write a Python program that checks whether a word stars and ends with a vowel in a given string. Return true if a word matches the condition; otherwise, return false. ("Red Orange White") -> True ("Red White Black") -> False ("abcd dkise eosksu") -> True	L3	CO3	PO1, PO2
13	a)	Explain the functionality of the following functions in Regular expressions. (i) search () (ii) match () (iii) sub () (iv) split ()	L2	CO3	PO1, PO2
	b)	Write a Python program to replace whitespaces with an underscore and vice versa using regular expressions.	L3	CO3	PO1, PO2
14	a)	Explain about tHRead module in detail.	L2	CO3	PO1, PO2
	b)	Write a program to demonstrate multithreaded mechanism provided by thread module in python.	L3	CO3	PO1, PO2
15	a)	Explain about tHReading module in detail.	L2	CO3	PO1, PO2
	b)	Write a program to demonstrate multithreaded mechanism provided by threading module in python.	L2	CO3	PO1, PO2
16	a)	How threads are accessed from python? Explain how life is without threads.	L2	CO3	PO1, PO2
	b)	Write short notes on global interpreter lock. How do threads exit?	L2	CO3	PO1, PO2

UNIT–IV

GUI PROGRAMMING AND WEB PROGRAMMING

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		What is GUI?	L1	CO4	PO1
2		List out the widgets of Tk.	L1	CO4	PO1
3		Write short notes on python mega widgets.	L1	CO4	PO1
4		Write short notes on GTK+ .	L1	CO4	PO1
5		Write short notes on pyGTK.	L1	CO4	PO1
6		Define urlopen() and urlretrive().	L1	CO4	PO1
7		What is urllib2 module?	L1	CO4	PO1
8		Define CGI.	L1	CO4	PO1
9		Describe types of handlers in python.	L1	CO4	PO1
10		What is an URL?	L1	CO4	PO1
Part – B (Long Answer Questions)					
11	a)	Explain briefly about GUI programming. Write how Tk is added to the applications.	L2	CO4	PO1, PO2
	b)	Explain about Radio button widget in tkinter. How to create two radio button sets (one for gender and another for Indian or not) on the same canvas.	L3	CO4	PO1, PO2
12	a)	Define top-level window (Tkinter.Tk()) and list out the widgets of Tk.	L2	CO4	PO1, PO2
	b)	Discuss about radio button widget and check button widget with example.	L3	CO4	PO1, PO2
13	a)	Discuss about Tk interface extensions (Tix).	L2	CO4	PO1,

					PO2
	b)	Write a Python program that creates a GUI with a textbox, Ok button and Quit button.	L3	CO4	PO1, PO2
14	a)	What is an URL? Write about urlparse module.	L2	CO4	PO1, PO2
	b)	Explain about urllib module.	L2	CO4	PO1, PO2
15	a)	Explain about urllib2 module.	L2	CO4	PO1, PO2
	b)	Explain in detail about CGI.	L2	CO4	PO1, PO2
16	a)	Explain about the following (i) cookies (ii) Using advanced CGI	L2	CO4	PO1, PO2
	b)	Discuss about web (HTTP) servers.	L2	CO4	PO1, PO2

UNIT–V

DATABASE PROGRAMMING

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		Define database.	L1	5	PO1
2		What is database schema?	L1	5	PO1
3		Explain about CREATE and USE SQL commands.	L2	5	PO1
4		Explain about DROP and INSERT SQL commands.	L2	5	PO1
5		Explain about DELETE and UPDATE SQL commands.	L2	5	PO1
6		Define ORM.	L1	5	PO1
7		List the various relational databases.	L1	5	PO1
8		List the various connection objects.	L1	5	PO1
9		Explain syntax of connect () function.	L2	5	PO1
10		Differentiate execute () and executemany ()	L1	5	PO1
Part – B (Long Answer Questions)					
11	a)	Explain the CRUD operations in SQL.	L2	5	PO1, PO2
	b)	Explain in detail about database application programmers' interface (DB-API).	L3	5	PO1, PO2
12	a)	Discuss about the cursor objects in python DB-API.	L2	5	PO1, PO2
	b)	Discuss about the Connection objects in python DB-API.	L3	5	PO1, PO2
13	a)	Discuss about object relation managers (ORMs).	L2	5	PO1, PO2
	b)	Explain about type objects and constructors in python DB-API.	L2	5	PO1, PO2
14	a)	Describe in detail about python SQL Alchemy ORM with a case study of Employee role database.	L3	5	PO1, PO2, PO3
	b)	Write short notes on DB-API Exception Classes.	L2	5	PO1, PO2
15	a)	Explain about the MySQL Python adapter: MySQLdb with an example.	L3	5	PO1, PO2
	b)	Explain how to create a database table and insert the data into	L3	5	PO1,

		that using MysQLdb with a suitable example.			PO2, PO3
16	a)	Explain about the MySQL Python adapter: mysql.connector with an example.	L3	5	PO1, PO2
	b)	Explain how to create a database table and insert the data into that using mysql.connector with a suitable example.	L3	5	PO1, PO2, PO3

* **Blooms Taxonomy Level (BT)** (L1 – Remembering; L2 – Understanding; L3 – Applying; L4 – Analyzing; L5 – Evaluating; L6 – Creating)

Course Outcomes (CO)

Program Outcomes (PO)

Prepared By: **HOD, CSE**

Mr. P Mabu Hussain, Assistant Professor