

SAINIK SCHOOL, AMARAVATHINAGAR

HOLIDAY HOMEWORK – 2019 – 2020

Class: XII

Subject: COMPUTER SCIENCE (083)

S. NO	TOPIC	ACTIVITY	TIME PERIOD	SKILL ENHANCED / LEARNING OUT COMES	ANNEXURE NO
1	Python Basics	Questions & Answers	1h	Understanding Applications	<u>A</u>
2	Control Flow, Functions	Questions & Answers	1.5h	Understanding Applications	<u>B</u>
3	Lists, Tuples, Dictionaries	Questions & Answers	3h	Understanding Applications Skill based	<u>C</u>
4	Files, Modules, Packages	Questions & Answers	3h	Understanding Applications Skill based	<u>D</u>
5	Project Work	Practical based	30hrs	Application oriented Knowledge based	<u>E</u>

Annexure:

- A** Python Basics Descriptive Questions 6nos
- B** Control Flow, Functions Descriptive Questions in two parts (23 +06 nos)
- C** Lists, Tuples, Dictionaries Simple Descriptive Questions in two parts(20 +05 nos)
- D** Files, Modules, Packages Simple Descriptive Questions in two parts(12 +11 nos)
- E** Project Work 01 Application based using data file handling or DJANGO with MYSQL Database OR any Game project.

TEACHER'S NAME: Mr Praveen M Jigajinni

SIGNATURE

Recommended By
Vice Principal

Approved By
Principal

SAINIK SCHOOL AMARAVATHINAGAR
SUMMER VACATION 2019-20
HOME WORK FOR CLASS XII (COMPUTER SCIENCE)

ANNEXURE A

PYTHON BASICS

PART A

- 1) Explain various types of operators used in Python
- 2) Explain Values & types supported in Python
- 3) What are the different function prototypes? Explain it with suitable example
- 4) Explain Interpreter & Interactive mode in Python
- 5) Write a program to Circulate value of N numbers
- 6) Explain about various statements in python

ANNEXURE B

CONTROL FLOW, FUNCTIONS

PART-A

- 1) Define Boolean datatype?
- 2) What are the conditional statements used in python?
- 3) Define if...else statements in python.
- 4) Write the syntax of for loop in python.
- 5) Define chained conditionals.
- 6) Write the syntax while conditional loop.
- 7) Define Iteration.
- 8) What are the different iterative statements?
- 9) Define range() function and its syntax.
- 10) Define pass statement.
- 11) Write the syntax for nested for loops and nested while loop statements.
- 12) What is python break statement?
- 13) What is python continue statement.
- 14) Define fruitful functions in python.

- 15) What are the types of parameters in functions?
- 16) What are the various parameter passing techniques?
- 17) Write the scope of the variable.
- 18) What is recursive function and its limitations?
- 19) Write the merits of using functions in a program.
- 20) Write the syntax for composition.
- 21) Define strings and name some methods.
- 22) List some of the methods in List Operations.
- 23) State the differences between linear search and Binary search.

PART B

- 1) Explain in detail about Control flow structures
- 2) Explain Various String functions used in python
- 3) Write a Python program to compute the factorial of a given number using recursion
- 4) Write a Python program using while loop first N numbers divisible by 5
- 5) Explain the concept of Linear & Binary Search with Python program
- 6) Discuss Function arguments in Python



ANNEXURE C

LISTS, TUPLES, DICTIONARIES

PART A

- 1) Define List?
- 2) What is cloning of List?
- 3) What is aliasing?
- 4) Define tuple.
- 5) Explain Tuple Assignment with example.
- 6) What is slicing?
- 7) Define Dictionary.
- 8) Give an example for List comprehension.
- 9) What is mutability?
- 10) List the functions of tuple data type.
- 11) List the methods of list data type.
- 12) Comment on tuple as return type.

- 13) When a dictionary is used instead of a list?
- 14) Differentiate between append() and extend() methods?
- 15) What is the output of print list + tiny list? List = ['abcd',786,2,23,'john',70.2],tinylist=[123,'john']
- 16) What is the difference between tuples and lists in python?
- 17) What is the difference between del() and remove() methods of list?
- 18) How to merge two dictionaries?
- 19) Define mutable and immutable data type.
- 20) When is dictionary used instead of a tuple?

PART B

- 1) Explain the following:
 - a. List Slicing & List Mutability
 - b. List Accessing Methods & List Comprehension

- 2) Explain Selection & Insertion sort methods with python program
- 3) Explain Merge & Quick sort methods with python program
- 4) Explain Dictionary Operation & Methods
- 5) Write code snippets in Python to perform the following
 - a. Accessing Elements of a Tuple
 - b. Modifying Elements of a Tuple
 - c. Deleting Elements of a Tuple



ANNEXURE D

FILES, MODULES, PACKAGES

PART A

- 1) Define File.
- 2) List the file opening Modes.
- 3) List the different ways to read a file.
- 4) What the difference is between append and write mode?
- 5) What are the attributes of file objects?
- 6) List the methods in file objects.
- 7) Differentiate Errors and Exceptions.
- 8) Illustrate try-except-else
- 9) Define modules.
- 10) Define packages.

- 11) Define pickling.
- 12) Give the mechanism to handle exceptions.

PART B

- 1) What are the two types of files? Explain different file operations
- 2) How will you create a Package & import it? Explain it with an example program
- 3) Write a python program to count the number of words in a text file
- 4) Explain the concept of Exception Handling in Python with suitable program
- 5) List out the types of Modules and Explain any two types in detail
- 6) What are the function arguments used in python?
- 7) List the types of functions.
- 8) What is the anonymous function in Python?
- 9) Define modules in Python.
- 10) How modules are incorporated in a python program?
- 11) List some of the built-in modules in python



ANNEXURE E

PROJECT WORK:

PROJECT SHOULD BE BASED ON: APPLICATION BASED USING DATA FILE HANDLING OR DJANGO WITH MYSQL DATABASE OR ANY GAME PROJECT.

NOTE:

TEAM IS FORMED AND TEAM HAS TO BRING PROJECT REPORT IN PRINTED AND SPIRAL BINDED/STICK FILE ALONG WITH CD CONTAINING PROJECT DOCUMENTATION WORD FILE WITH SOURCE CODE/ SOFTWARE PROJECT.