Hall Ticket No | | | | | | | | | | | Question Paper Code: ACSB38

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER - I

B.Tech II Semester End Examinations

Regulations: R18

PROGRAMMING FOR PROBLEM SOLVING THROUGH PYTHON

(CE)

Time: 3 hours **Max. Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

MODULE – I

1.	a)	Demonstrate briefly about the features of Python programming language and also write various data types with their sizes.	**[7M]**
	b)	Illustrate the use of input and output statements with the necessary syntax and write example program.	**[7M]**
2.	a)	What is an operator and explain about the arithmetic operators and assignment operators in Python with example.	**[7M]**
	b)	Explain about identity operators and operator precedence and associativity with example.	**[7M]**

MODULE – II

3.	a)	Define the following with the necessary examples. i. if statement ii. if-else-if statement iii. nested –if statement	**[7M]**
	b)	With the necessary examples describe the use of continue and break statement.	**[7M]**
4.	a)	List out with the syntax of various conditional statements used in Python programming.	**[7M]**
	b)	Write a python program to check whether a given number is palindrome or not,	**[7M]**

MODULE – III

5.	a)	Write code snippets in Python to perform the accessing elements of a tuple, modifying elements of a tuple, and deleting elements of a tuple .	**[7M]**
	b)	Explain the use of following methods with their syntax. a) index() b) append() c) insert() d) copy() e) extend() f) remove() g) pop()	**[7M]**

6.	a)	Compare and contrast the difference between List and Arrays and also explain about array module with example programs.	**[7M]**
	b)	Write a Python program for addition of two matrices.	**[7M]**

MODULE – IV

7.	a)	Discuss Length of string Indexing in strings counting substrings in a string the operations on list.	**[7M]**
	b)	Discuss about the rstrip(), lstrip(),strip() methods that are used to remove spaces from a string.	**[7M]**
8.	a)	Describe the role of Python interpreter in functions. Explain possible ways of assigning a function.	**[7M]**
	b)	With necessary examples briefly explain how to define a function and call a function.	**[7M]**

MODULE – V

9.	a)	Describe the role of object oriented programming compared with the procedure oriented programming.	**[7M]**
	b)	Illustrate the use of creating a class, constructor, the self variable with the necessary examples.	**[7M]**
10.	a)	Describe the relationship between a class and object? Write a program which shows how to define a class, how to access member functions and how to create and access objects in python.	**[7M]**
	b)	List and explaain various object oriented progrmming concepts availiable in Python proramming.	**[7M]**

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COURSE OBJECTIVES:

The course should enable the students to:

I	Understand the fundamentals of Python programming concepts and its applications.
II	Understand the object-oriented concepts using Python in problem solving.
III	Apply string handling and function basics to solve real-time problems.
IV	Illustrate the method of solving errors using exception handling.
V	Design and implement programs using multi threading concepts

COURSE OUTCOMES (COs):

CO 1	Understand and comprehend the basics of python programming.
CO 2	Express different conditional and decision making statements used to develop python applications.
CO 3	Learn and implement various data structures provided by python library including string, list, dictionary and its operations etc
CO 4	Define and demonstrate the use of the built-in functions and better usage of string methods in the development of python programming.
CO 5	Develop real-world applications by using various object oriented programming concepts.

COURSE LEARNING OUTCOMES (CLOs):

ACSB38.01	Describe the Features of Python, Data types.
ACSB38.02	Summarize the concept of Operators, Input and output, Control Statements.
ACSB38.03	Identify the features of Object Oriented Programming System (OOPS).
ACSB38.04	Use the concept of Classes and Objects, Encapsulation.
ACSB38.05	Describe Abstraction, Inheritance, and Polymorphism.
ACSB38.06	Determine Creating a class, The Self variable.
ACSB38.07	Understand types of variable, Namespaces.
ACSB38.08	Determine types of Methods, Inheritance and Polymorphism.
ACSB38.09	Use Constructors in inheritance, the super() method.
ACSB38.10	Illustrate types of inheritance, Polymorphism, Abstract classes and Interfaces.
ACSB38.11	Understand Creating strings and basic operations on strings.

ACSB38.12	Analyze the concept of String testing methods, Defining a function.
ACSB38.13	Illustrate Calling a function, Returning multiple values from a function.
ACSB38.14	Contrast the Usage of Functions are first class objects, Formal and actual arguments.
ACSB38.15	Define Positional arguments, Recursive functions.
ACSB38.16	Discuss the concept of Errors in a Python program.
ACSB38.17	Understand Exceptions, Exception handling.
ACSB38.18	Summarize the concept of types of exceptions.
ACSB38.19	Discuss the Except block, the assert statement.
ACSB38.20	Understand the concept of user-defined exceptions.

MAPPING OF SEMESTER END EXAMINATION - COURSE OUTCOMES

SEE Question No		Course Learning Outcomes		Course Outcomes	Blooms Taxonomy Level
1	a	ACSB38.03	Identify the features of Object Oriented Programming System (OOPS).	CO 1	Understand
	b	ACSB38.01	Describe the Features of Python, Data types.	CO 1	Understand
2	a	ACSB38.02	Summarize the concept of Operators, Input and output, Control Statements.	CO 1	Remember
	b	ACSB38.02	Summarize the concept of Operators, Input and output, Control Statements.	CO 1	Understand
3	a	ACSB38.06	Determine Creating a class, The Self variable.	CO 2	Understand
	b	ACSB38.06	Determine Creating a class, The Self variable.	CO 2	Remember
4	a	ACSB38.08	Determine types of Methods, Inheritance and Polymorphism.	CO 2	Understand
	b	ACSB38.07	Understand types of variable, Namespaces.	CO 2	Understand
5	a	ACSB38.11	Understand Creating strings and basic operations on strings.	CO 3	Understand
	b	ACSB38.12	Analyze the concept of String testing methods, Defining a function.	CO 3	Understand
6	a	ACSB38.13	Illustrate Calling a function, Returning multiple values from a function.	CO 3	Understand
	b	ACSB38.14	Contrast the Usage of Functions are first class objects, Formal and actual arguments,	CO 3	Understand
7	a	ACSB38.17	Understand Exceptions, Exception handling.	CO 4	Understand
	b	ACSB38.18	Summarize the concept of types of exceptions.	CO 4	Understand
8	a	ACSB38.18	Summarize the concept of types of exceptions.	CO 4	Understand
	b	ACSB38.19	Discuss the Except block, the assert statement.	CO 4	Understand

9	a	ACSB38.22	Apply Working with containers, Canvas.	CO 5	Understand
	b	ACSB38.24	Implement Message widget, Text widget.	CO 5	Understand
10	a	ACSB38.25	Illustrate Radio button Widget, Entry widget.	CO 5	Understand
	b	ACSB38.24	Implement Message widget, Text widget.	CO 5	Understand

Signature of Course Coordinator **HOD, IT**