Hall Ticket No | | | | | | | | | | | Question Paper Code: AITB01

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER-I

B.Tech III Semester End Examinations, November 2020

Regulations: IARE - R18

OBJECT ORIENTED PROGRAMMING THROUGH PYTHON

COMMON TO (CSE & IT)

Time: 3 hour | Maximum Marks: 70

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

MODULE-I

1. (a) Explain about features of Object Oriented Programming compared with the procedure oriented programming. [**7m**]

   (b) Construct code snippets in Python to perform the following: [**7m**]

   (i) Accessing elements of a tuple
   (ii) Modifying elements of a tuple
   (iii) Deleting elements of a tuple

2. (a) What is an operator and explain about the arithmetic operators and assignment operators in Python with example. [**7m**]

   (b) Explain in detail about identity operators, operator precedence and associativity with an example. [**7m**]

MODULE-II

3. (a) Demonstrate the following with an examples. (i) Creating a class (ii) Constructor (iii) The self variable [**7m**]

   (b) What is a class? What is the relation between an object and a class? 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**]

4. (a) Explain the following with an examples. (i) Polymorphism (ii) Inheritance (iii) Abstract class [**7m**]

   (b) What is a namespace? How do you resolve the name conflicts using namespaces? Explain with an example. [**7m**]

MODULE-III

5. (a) Illustrate the following operations on strings (i) Length of string (ii) Indexing in strings (iii) counting substrings in a string [**7m**]

(b) Identify the following methods that are used to remove spaces from a string. (i) rstrip() (ii) lstrip() (iii) strip() [**7m**]

6. (a) Explain the role of Python interpreter in functions. Explain possible ways of assigning a function. [**7m**]

   (b) Explain the following with necessary examples. (i) Defining a function (ii) Calling a function [**7m**]

MODULE-IV

7. (a) How the exceptions are handled in Python? Explain briefly exception handling mechanism in Python? [**7m**]

   (b) What are the rules in Python need to follow, when overriding a method that throws an exception? [**7m**]

8. (a) Justify that either define an except or a finally clause with every try block. You cant club these together. Also, you shouldnt use the else clause along with a finally clause. [**7m**]

   (b) What are the legal combinations of try, catch and finally blocks? Explain in detail about else blocks? [**7m**]

MODULE-V

9. (a) Explain in detail about the working procedure of containers with an example. [**7m**]

   (b) How to create message widget by using Python with an example? [**7m**]

10. (a) Create a Python GUI program that produces a window with the following widgets

    (i) A text box to display the value of one element of a given list

    (ii) A button to retrieve the previous value in that list(if there is one).This button is displayed if there is no previous value in the list

    [**7m**]

    (b) What is Python widget? Explain interactive linear and non linear regression model with the necessary examples. [**7m**]

****END OF EXAMINATION****

COURSE OBJECTIVES:

The course should enable the students to:

1	The fundamental concepts of object-oriented approach for solving real-time problems.
2	The basic and advanced constructs of Python programming for developing object oriented concepts.
3	The design concepts for developing user interface of real time applications.

COURSE OUTCOMES:

After successful completion of the course, students should be able to:

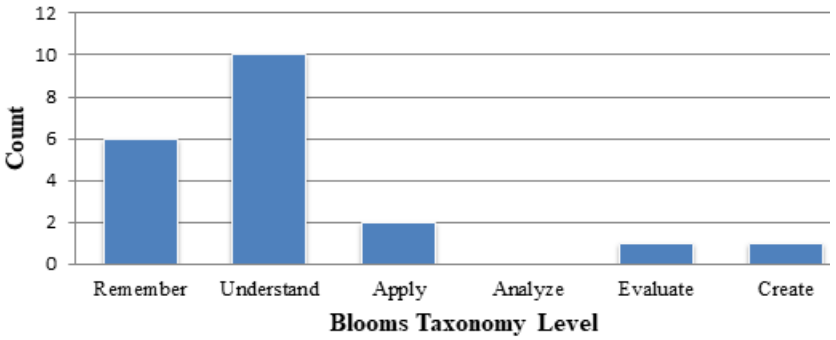
CO 1	Recall the basic programming constructs in implementing in Python.
CO 2	Identify classes, objects, members of a class and relationship among them for real world entities.
CO 3	Summarize the object-oriented concepts such as Abstraction, Encapsulation, Inheritance and Polymorphism in real time context.
CO 4	Demonstrate abstraction feature with the help of python class properties.
CO 5	Make use of polymorphism and inheritance concepts for achieving code reusability.
CO 6	Apply inbuilt strings for creating, performing basic operations and testing on text data.
CO 7	Develop user-defined functions for better modularity and a high degree of code reusability.
CO 8	Explain parameter-passing techniques while invoking recursive and non-recursive functions for solving problems.
CO 9	Analyze the Python exception mechanisms for handling errors and abnormal termination of program.
CO 10	Develop user-defined exceptions for handling un-interrupted execution of specific programs.
CO 11	Demonstrate Python GUI tool kit for designing static user interfaces.
CO 12	Make use of widgets, containers and frames for creating user interface of web application.

MAPPING OF SEMESTER END EXAMINATION QUESTIONS TO COURSE OUTCOMES

Q.No		All Questions carry equal marks	Taxonomy	CO's	PO's
1	a	Explain about features of Object Oriented Programming compared with the procedure oriented programming.	Understand	CO 2	PO 1
	b	Construct code snippets in Python to perform the following: [**7m**] (i) Accessing elements of a tuple (ii) Modifying elements of a tuple (iii) Deleting elements of a tuple	Apply	CO 1	PO 1,2
2	a	What is an operator and explain about the arithmetic operators and assignment operators in Python with example.	Remember	CO 1	PO 1
	b	Explain in detail about identity operators, operator precedence and associativity with an example. .	Understand	CO 1	PO 1
3	a	Demonstrate the following with an examples. (i) Creating a class (ii) Constructor (iii) The self variable	Understand	CO 4	PO 4
	b	What is a class? What is the relation between an object and a class? Write a program which shows how to define a class, how to access member functions and how to create and access objects in Python.	Remember	CO 2	PO 1
4	a	Explain the following with an examples. (i) Polymorphism (ii) Inheritance (iii) Abstract class	Understand	CO 5	PO 1
	b	What is a namespace? How do you resolve the name conflicts using namespaces? Explain with an example.	Understand	CO 4	PO 1
5	a	Illustrate the following operations on strings (i) Length of string (ii) Indexing in strings (iii) counting substrings in a string	Understand	CO 6	PO 1
	b	Identify the following methods that are used to remove spaces from a string. (i) rstrip() (ii) lstrip() (iii) strip()	Apply	CO 6	PO 1,2
6	a	Explain the role of Python interpreter in functions. Explain possible ways of assigning a function.	Understand	CO 8	PO 1
	b	Explain the following with necessary examples. i)Defining a function ii)Calling a function	Understand	CO 7	PO 1

7	a	How the exceptions are handled in Python? Explain briefly exception handling mechanism in Python?	Remember	CO 9	PO 1
	b	What are the rules in Python need to follow, when overriding a method that throws an exception?	Remember	CO 9	PO 1
8	a	Justify that either define an except or a finally clause with every try block. You cant club these together. Also, you shouldnt use the else clause along with a finally clause.	Evaluate	CO 9	PO 2,4
	b	What are the legal combinations of try, catch and finally blocks? Explain in detail about else blocks?	Understand	CO 9	PO 1
9	a	Explain in detail about the working procedure of containers with an example.	Understand	CO 12	PO 1
	b	How to create message widget by using Python with an example?	Remember	CO 12	PO 1
10	a	Create a Python GUI program that produces a window with the following widgets (i) A text box to display the value of one element of a given list (ii) A button to retrieve the previous value in that list(if there is one).This button is displayed if there is no previous value in the list	Create	CO 11	PO 2,3,5
	b	What is Python widget? Explain interactive linear and non linear regression model with the necessary examples.	Remember	CO 12	PO 1,2

KNOWLEDGE COMPETENCY LEVELS OF MODEL QUESTION PAPER



Signature of Course Coordinator **HOD,IT**
A. Lakshmi, Assistant Professor