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INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal-500043, Hyderabad

B.Tech I SEMESTER END EXAMINATIONS (REGULAR) - APRIL 2022

Regulation:UG-20

PYTHON PROGRAMMING

Time: 3 Hours

(COMMON TO ALL BRANCHES)

Max Marks: 70

Answer ALL questions in Module I and II

Answer ONE out of two questions in Modules III, IV and V

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

MODULE – I

- (a) Describe arithmetic operators, assignment operators, comparison operators, logical operators, and bitwise operators in detail with examples. [7M]
- (b) Given a list of words in Python, the task is to remove the Nth occurrence of the given word in that list. [7M]

Input: list – ["can", "you", "can", "a", "can" "?"]

word = can, N = 1

Output: list – ["you", "can", "a", "can" "?"]

MODULE – II

- (a) Illustrate the different types of control flow statements available in Python with flowcharts. [7M]
- (b) The grades assigned to the students of a certain engineering college are O, A, B, C, F. Write a program that prompts the users to enter a character O, A, B, C, F and display their grades as Outstanding, Very Good, Good, Average, and Fail respectively using if-elif-else. [7M]

MODULE – III

- (a) Explain the following set operations with examples.
i) update() ii) add() iii) remove() iv) pop() v) copy() [7M]
- (b) Abecedarian refers to a series or list in which the elements appear in alphabetical order. Write a program to generate Abecedarian series. [7M]

Input: str1 = "ABCDEF", str2 = "ate",

Output: Aate Bate Cate Date Eate Fate

- (a) Illustrate with suitable examples the following list methods in Python.
i) insert() ii) append() iii) pop() iv) extend() [7M]
- (b) Write a program that prompts the user to enter a message. Now count and print the number of occurrences of each character in a dictionary. [7M]

Input: "iare college",

Output: {'i':1, 'a':1, 'r':1, 'e':3, ' ':1, 'c':1, 'o': 1, 'l':2, 'g':1}.

MODULE – IV

5. (a) How to create a dictionary in Python? Describe how to get all the keys and all the values from the dictionary? [7M]
- (b) A bank offers 12 % of interest for senior citizens where as for all other customers, the rate of interest is 10%. Write a user defined function to calculate the simple interest for senior citizens and other customers. [7M]
6. (a) What type of parameter passing is used in Python? Justify your answer with sample programs. [7M]
- (b) Read a string from the user and redisplay the same string after removing vowels from it without using built-in function. Write a Python program to illustrate it [7M]
- Input: "i are college"
Output: "r c ll g "

MODULE – V

7. (a) Demonstrate the following built-in functions:
- i) `hasattr(obj, name)`
 - ii) `getattr(obj, name[, default])`
 - iii) `setattr(obj, name, value)`
 - iv) `delattr(obj, name)` [7M]
- (b) Create a class shape and abstract methods `area()` and `perimeter()`. Write a Python program to calculate area and perimeter of square, rectangle and triangle using Polymorphism. [7M]
8. (a) Explain with suitable examples different types of inheritance supported by Python. [7M]
- (b) Create a class student that stores roll number, name and marks in three subjects of the students. Write a program to display the information roll no, name, total marks, and average marks stored about the student. [7M]

