

Total No. of Questions : 5]

SEAT No. :

PA-2556

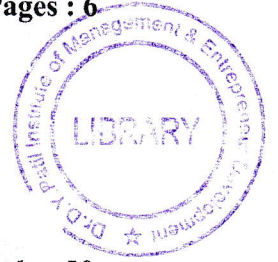
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M.C.A. - I (Management)

IT - 21 : PYTHON PROGRAMMING

(2020 Pattern) (Semester - II)



Time : 2½ Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Answer all sub questions at one place.

Q1) Choose the correct option. (½ mark each)

[10]

- a) If `zoo = ['lion', 'tiger']`, what will be `zoo*2`?
 - i) ['lion', 'lion', 'tiger', 'tiger']
 - ii) ['lion']
 - iii) ['tiger']
 - iv) ['lion', 'tiger', 'lion', 'tiger']
- b) For dictionary `d = {plum : 0.66, pears : 1.25, oranges : 0.49}` which of the following statement correctly updates the price of oranges to 0.52?
 - i) `d [oranges] = 0.52`
 - ii) `d[0.49] = 0.52`
 - iii) `d [2] = 0.52`
 - iv) `d [plum] = 0.52`
- c) What is the correct syntax for creating single valued tuple?
 - i) (a)
 - ii) (,)
 - iii) (a ,)
 - iv) {a}
- d) The length of `sys. argv` is
 - i) Only file name
 - ii) Total number of arguments including pythan command
 - iii) Total number of arguments including filename
 - iv) Total number of excluding the file name
- e) Which of these definitions correctly describes a module?
 - i) Denoted by triple quotes for providing the specification of certain program elements.
 - ii) Defines the specification of how it is to be used.
 - iii) Design and implementation of specific functionality to be incorporated into a program.
 - iv) Any program that reuses code

P.T.O.

- f) To include use of functions which are present in random library, we must use the option
- i) random. h
 - ii) random. random
 - iii) import. random
 - iv) import random
- g) _____ is a string literal denoted by triple quote for providing the specifications of certain program elements.
- i) client
 - ii) docstring
 - iii) modularity
 - iv) Interface
- h) The correct way of inheriting a derived class from base class is:
- i) Class Derived (Base):
 - ii) Class Base (Devired):
 - iii) Class (Base) Derived:
 - iv) Class
- i) The + operator is overloaded using the method
- i) --plus-- ()
 - ii) --add-- ()
 - iii) --sum-- ()
 - iv) --total-- ()
- j) The syntax for using super() in derived class __init__() method definition looks like
- i) init--.super ()
 - ii) Super().--init--(derived class parameters)
 - iii) Super ()
 - iv) Super ().--init-- (base class parameters)
- k) The character _____ and _____ matches the start and end of the string, respectively.
- i) \$ and \$
 - ii) * and &
 - iii) ^ and °
 - iv) ^ and \$
- l) Consider a five 21-12-2016. zip. The regular expression pattern to extract date from filename is
- i) ([0-9] {2} \- [0-9] {2} \- [0-9] {4})
 - ii) ([0-9] {1} \- [0-9] {2} \- [0-9] {4})
 - iii) ([0-9] {2} \- [0-9] {1} \- [0-9] {4})
 - iv) ([0-9] {2} \- [0-9] {2} \- [0-9] {2})



- m) When will the else part of the try-except-else be executed?
- When an exception occurs
 - Always
 - When there is no exception
 - When an exception occurs in try block.
- n) When is the finally block executed?
- only if some condition that has been specified is satisfied
 - always
 - When an exception occurs
 - When there is no exception
- o) Which of the following is not a valid attribute of the file object file-handler.
- file-handler.closed
 - file-handler.size
 - file-handler.mode
 - file-handler.name
- p) Which of the following command is used in mango shell to show all the databases.
- Show databases
 - Show dbs
 - ls dbs
 - Show dbs. all
- q) The function that returns its arguments with a modified shape and the method that modifies the array itself respectively in Numpy are
- resize, reshape
 - reshape2, resize
 - reshape2, resize2
 - reshape, resize
- r) Which of the following is used for line graph?
- plt. linc ()
 - plt. plot ()
 - plt. bar ()
 - plt. scatter ()



- s) Which of the following statement is false?
- ndarray is also known as the axis array
 - in numpy, dimensions are called axes
 - numpy main object is the homogeneous multidimensional array
 - ndarray dataitemsize is the buffer containing the actual elements of the array
- t) The method used in pandas to return top 5 rows
- top ()
 - top - rows (5)
 - row (5)
 - head ()

- Q2) a) Write a program that accept the string from user and display the same string after removing vowels from it. [3]
- b) Explain positional and keyword arguments in function. Use suitable example. [3]
- c) Describe instance variable, static variable and local variables in python object oriented programming with example. [4]

OR

- a) Compare List and tuple with suitable example. [3]
- b) Explain lambda with example. [3]
- c) Create class called, library with data attributes like Acc-number publisher, title and author, the methods of the class should include [4]
- Read () - Acc- number, title, author, publisher.
 - Compute () - to accept the number of day late, calculate and display the fine charged at the rate of Rupees 5/- per day.
 - Display the data

- Q3) a) Develop a program to print the number of lines, words and characters present in the given file? Accept the file name from user. Handle necessary exceptions. [2]
- b) Illustrate CRUD operations in MongoDB with example [3]
- c) Compare SQL Database with No SQL Database. [2]
- d) Write a program to check whether entered string & number is palindrome or not. [3]

OR



- a) Develop a python program to remove the comment character from all the lines in the given file. Accept the file name from user [2]
- b) Write a python program to perform following operations. on MongoDB Database. [5]
- Create collection "EMP" with fields:
Emp-name, Emp-mobile, Emp, sal, Age
 - Insert 5 documents.
 - Find the employees getting salary between 5000 to 10000.
 - Update mobile number for the employee named as "Riddhi"
 - Display all employees in the order of "Age"
- c) Write a python program to find the factorial of a given number using recursion [3]
- Q4) a) Write a program to demonstrate: [4]**
- Creating a Thread without using any class
 - Creating a Thread by extending Thread class.
- b) Write a Python program to check the validity of a password given by user. [4]
- The password should satisfy following criteria:
- Contain at least 1 letter between a and z
 - Contain at least 1 number between 0 and 9
 - Contain at least 1 letter between A and Z
 - Contain at least 1 character from \$, #, @, *
 - Minimum length of password : 8
 - Maximum length of password : 20
- c) Explain Generators in python with suitable example. [2]

OR



- a) Write a program for synchronization of threads using RLOCK. Accept the two numbers from user and calculate factorial of both numbers simultaneously [4]
- b) Write a python program [4]
 - i) To remove all leading 'zeros' from an IP address
 - ii) To find all 5 character long words in a string Accept string from user.
- c) Explain decorators in python with suitable example [2]

- Q5)**
- a) Explain numpy integer indexing, array indexing. boolean array indexing and slicing with example. [4]
 - b) Draw bar graph using matplotlib and decorate it by adding various elements [2]
 - c) Prepare the pandas dataframe from csv file. [2]
perform following operations.
 - i) Fill all 'NaN' values with the mean of respective column.
 - ii) Display last 5 rows.
 - d) Explain constructors in python with example. [2]

OR

- a) Write a program to illustrate numpy array attributes/functions. [4]
 - i) ndarray. shape
 - ii) np. zeros ()
 - iii) np. eye ()
 - iv) np. random. random () [4]
- b) Read data from csv file and create dataframe. Perform following operations.
 - i) Display list of all columns.
 - ii) Display data with last three rows and first three columns [2]
- c) Draw line graph using matplotlib and decorate it by adding various elements. Use suitable data.
- d) Explain multiple inheritance in python with suitable example. [2]

