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SEAT No. :

P6983

[5865] - 201

[Total No. of Pages : 5

F.Y.M.C.A. (Management)
IT21-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 subquestions at one place.*

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

[10]

- i) Which type of programming does python support?
 - a) Object-oriented programming
 - b) Structured programming
 - c) Functional programming
 - d) all of the mentioned
- ii) Which keyword is used for function in python language?
 - a) function
 - b) def
 - c) fun
 - d) define
- iii) Which of the following function is used to export graph generated in matplotlib to-png file format?
 - a) savefig
 - b) savefigure
 - c) save
 - d) export
- iv) Which of the following method used for displaying plot?
 - a) display
 - b) show
 - c) execute
 - d) plot
- v) In python, a class is _____ for a concrete object.
 - a) a distraction
 - b) an instance
 - c) a nuisance
 - d) a blue print

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- xv) If `zoo = ['lion', 'tiger']`, what will be `zoo*2`?
- `['lion', 'lion', 'tiger', 'tiger']`
 - `['lion']`
 - `['tiger']`
 - `['lion', 'tiger', 'lion', 'tiger']`
- xvi) What is correct syntax for creating single valued tuple?
- `(a)`
 - `(,)`
 - `(a,)`
 - `{a}`
- xvii) _____ is a string literal denoted by triple quote for providing the specifications of certain program elements.
- `client`
 - `docstrng`
 - `modularity`
 - `interface`
- xviii) The command that is used to install a third-party module in python is
- `pip`
 - `import`
 - `py`
 - `install`
- xix) The character _____ and _____ matches the start and end of string, respectively.
- `$` and `$`
 - `*` and `&`
 - `^` and `•`
 - `^` and `$`
- xx) The most important object defined in Numpy is an N-dimensional array type called?
- `narry`
 - `Ndarry`
 - `ndrray`
 - `NdArray ()`

- Q2)** a) Write a program to check the number entered by user is even or odd. Program should accept integer digits only. [3]
- b) Illustrate types of arguments used in python function with example. [3]
- c) Discuss the polymorphism concept in python create suitable python classes. [4]

OR

- a) Write a python program for the following. [3]
 - i) Create list of fruits
 - ii) Add new fruit in list.
 - iii) sort the list.
 - iv) delete last fruit name from list.
- b) Write a python function to check the given number is even or odd. Handle suitable exceptions. [3]
- c) Explain constructor concept in python with example. [4]

- Q3)**
- a) Write a python program to create an employee. txt file and store employee name and address. [2]
 - b) Write a python program to create “employee” collection with fields” (ID, name, address, phone email and dept) in mongoDB. Prform the following operations. [5]
 - i) Display all employees in “Accounts” department
 - ii) Delete employee with ID - 210345
 - iii) Update phone with new phone for employee ID -123
 - c) What is tuple?
What is the difference between list and tuple? [3]

OR

- a) What is set? Explain with example. [3]
- b) Write a program to retrieve and display employee details from “Employee” collection stored in mangoDB database. [3]
- c) Write a program to update the employee details stored in “Employee” collection stored in Mangodb database. [2]
- d) Write python program to read “employee” .txt” file and display alternate employee record. [2]

- Q4)**
- a) Write a program for extracting email address from a given webpage. [4]
 - b) What is synchronization in threading? Explain with example. [4]
 - c) What is module? Explain with example. [2]

OR

- a) Write a program to validate URL using regular expression. Explain every special character of the regular expression used in this program. [4]
- b) Write a multithreading program, where one thread prints square of a number and another thread prints factorial of a number. Also display the total time taken for the execution. [4]
- c) What is anonymous function in python? Demonstrate with example. [2]

- Q5)** a) Create 5×5 2D numpy array and retrieve top left corner 2×2 array from it. [2]
- b) Write a program to illustrate slicing in numpy array. [2]
- c) Create pandas dataframe using two dimensional list. Perform following operations. [4]
- i) Count number of rows.
 - ii) Count missing values in first column.
 - iii) Display number of columns in data frame.
- d) Explain the terms w.r.t. oops in python. [2]
- i) -- Init--
 - ii) Self

OR

- a) Create 3×3 numpy array and display column wise mean and median.[2]
- b) Create a series from numpy array and find max and mean of unique items of series. [2]
- c) Given data frame as below: [4]
- | ID | Name | HRA | TA | DA |
|------|--------|-------|------|-------|
| 1001 | Mohan | 12000 | 6000 | 10000 |
| 1002 | Sachin | 13000 | 5000 | 9000 |
| 1003 | Virat | 11000 | 4000 | 8000 |
- i) Compute sum of each column.
 - ii) Compute mean of each integer column.
 - iii) Compute median of each integer column.
- d) Explain overloading in python with example. [2]

