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Dr. D. Y. Patil Institute of Management & Entrepreneurship Development

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SEAT No. :

PF5633

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F.Y. M.C.A. (Management)

PPR501MJ-IT11 : PYTHON PROGRAMMING

(2024 Pattern) (Semester - I)

Time : 2½ Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*

Q1) Solve any two : **[2×5=10]**

a) Write a program to convert the last character of each word in the string to uppercase.
(String= 'python is programming language'
output = 'pythoN is programminG languagE')

b) Write a program to Create the Separate list of Digits from the original list which Contains digits and alphabets using list comprehensions.
(Input List = ['Hello' , 'm', '44' , 'welcome 99' , '360']
output List = [44]

c) What is dictionary in python? Explain items, keys, pop and popitem methods with the help of suitable examples.

d) Write a program to swap every odd-even position character in the string
(Input :'abcdef'
output : 'badcfe')

Q2) Solve any two: **[2×5=10]**

a) Write a program to generate fibonacci sequence upto n^{th} terms using recursion.

b) Write user defined exception program in python which power will accept age as Input from user and check whether user is eligible for voting or not. If age< 18 it should raise the exception as 'Not eligible for Voting'.

c) Explain the use of yield in generators. Write a generator function that yields even numbers up to n

d) What is lambda function ? Write a lambda function which will return the maximum between three numbers.

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Q3) Solve any Two : **[2×5=10]**

a) Create a class person with attributes first name, last name, city, birthdate and methods display Info() . Write a constructor to initilize the instance variables. Write method to display age of person.

b) Write a program to check if a URL is valid. The URL should :

- Start with http://or https://
- contain domain name and optional path

c) Write a program for synchronization of threads using RLock. Accept the two numbers from user and calculate factorial of both Simultaneously.

d) Explain the concept of delegation and containership with suitable example.

Q4) Write a mongo DB program to create a 'Employee' collection having fields; Id, Name, department, salary, age, mobile, city. Write a code to perform following operations. **[10]**

a) Insert 5 documents into employee collection.

b) Display all employees getting salary between 5000 to 10000.

c) Display all employees in the reverse order of age.

d) Delete employee whose 'id' is '123'

e) Display all empolyees from 'marketing' department having salary less than 12,000.

f) Update mobile number of employee whose 'Name' is 'Atul'

g) Display all the documents.

Q5) Solve any two **[2×5=10]**

a) Explain Django project structure in detail.

b) Define URL mappings in Django. What is the purpose of the URLs. py file in Django project?

c) Design a feedback form using Django. Also implement all field validations.

d) Write a Django program to demonstrate how user registration and login authentication can be implemented.