G H PATEL P G DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY

MASTER OF COMPUTER APPLICATIONS (MCA)

SEMESTER – I

PS01CMCA31 (PYTHON PROGRAMMING)

8TH FEBRUARY, 2021

Time : 11:00 a.m. to 12:30 p.m. **Marks : 30**

Note : Answers of all the questions (including multiple choice questions) should be written in the provided answer book only.

Q-1 Pick up the most appropriate answer from the given alternatives and write in your answer book. **(04)**

(i) The extension of Python program file is -

[A] .py [B] .python [C] .pe [D] .pi

(ii) Which one of the following symbols, is used to write a comment line?

[A] & [B] % [C] $ [D] #

(iii) _____is a function returns data type of a variable.

[A] return() [B] type() [C] Both [A] & [B] [D] None of these

(iv) _____ is used to print message on screen.

[A] print() [B] println() [C] out() [D] None of these

Q-2 Attempt **ANY THREE** from the following: **(06)**

I. Explain if...else... statement with example.
II. Differentiate between list and tuple.
III. Explain upper( ) and lower( ).
IV. List down names of common sequence operations.
V. Write any four keywords of Python.

Q-3 (a) What is Python? Write down its advantages and application areas. **(05)**

(b) Explain for loop statement and range( ) by taking suitable examples. **(05)**

OR

(b) List and explain various types of operators taking suitable examples. **(05)**

Q-4 (a) What is List? Explain any four list methods/functions with an example. **(05)**

(b) Write Python script to read N number of elements through keyboard, add them to a list variable, and display minimum number among them. **(05)**

OR

(b) What is Tuple? Explain tuple by taking suitable example. **(05)**

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G. H. Patel P. G. Department of Computer Science and Technology

MASTER OF COMPUTER APPLICATION (MCA)

SEM- I Internal Examinations

PS01CMCA33: DATABASE MANAGEMENT SYSTEMS

Wednesday, 10th February, 2021

Time: 11:00 am to 12:30 pm Max. Marks: 30

Q-1 Choose the most appropriate option for each question: [4]

1. Which of the following keyword is not used in constraint?
   (A) Foreign (B) Check
   (C) Primary (D) Create
2. Where the metadata are stored in database?
   (A) System Catalog (B) Meta dictionary
   (C) DBA (D) None of these
3. _____ command is use to remove the records from a table.
   (A) SELECT (B) INSERT
   (C) DELETE (D) UPDATE
4. Which of the following is not a types of join?
   (A) Inner join (B) Outer join
   (C) Cross join (D) None of these

Q-2 Answer the following questions (ANY THREE): [6]

1. Give one example of Simple attribute and multivalued attribute.
2. Give an example of derived attribute and composite attribute.
3. List out any four data types in oracle.
4. Difference between Char and Varchar data type.

Q-3 Answer the following questions:

A. Explain entities and attributes. Draw various notations for ER diagram. [5]

B. Explain Primary key and foreign key constraints with an example. [5]

OR

B. Consider the following table. [5]
Student_Master (Student_Id, Student_Name, Birth_Date, Mobile, City)
Write down the answers of following queries.
   1. Add new record in student_master table.
   2. To display all students detail.
   3. Remove all the records whose Student_Id greater than 20.
   4. Change the City is equal to 'Ahmedabad' for Student_no less than 5.
   5. Display students name in alphabetical order.

Q-4 Answer the following questions:

A. Explain CREATE command syntax with an example. [5]

B. Explain any five in-built functions with an example. [5]

OR

B. List types of joins. Explain any two with an example. [5]

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G H Patel P G Dept of Comp Sc and Tech, S P University
MCA I Semester Examinations, 2021
PS01CMCA35: Computer Fundamentals

Time: 1 Hour 30 Minutes **Date: 12/02/2021** **Marks: 30**

Q1.	**Choose the most appropriate option :**	**[04]**
(i)	Which one out of the following is a fastest memory ? (A) Hard Disk (B) RAM (C) Cache (D) Registers.	
(ii)	What is the size of the exponent part of the IEEE single-precision format for representing floating-point numbers ? (A) 8 bits (B) 10 bits (C) 11 bits (D) None of these.	
(iii)	_____ is an operation possible on a linear data structure. (a) Insert (b) Delete (c) Search (d) All of these	
(iv)	_____ is an example of linear data structure. (b) Tree (b) Array (c) Graph (d) None of these	
Q2.	**Answer the following questions in brief (ANY THREE) :**	**[06]**
(i)	List the **steps** involved in **instruction execution** by a CPU.	
(ii)	Construct a **Hamming code** for the character 'C' (ASCII: 67) considering odd parity.	
(iii)	Represent the binary number -110.1011 in the IEEE single-precision format.	
(iv)	List only operations possible on stack data structure.	
(v)	Draw a singly linked list of your choice.	
Q3.	**Answer in Detail.**	
(A)	Draw the **block diagram** of a simple computer. Write the main functions of various components shown in the diagram.	**[05]**
(B)	Write a short note on **pipeline machines**.	**[05]**
	OR	
	Write a short note on **array processors.**	
Q4.	**Answer in Detail.**	
(A)	Draw diagram of various types of data structure and write about each type in one line.	**[05]**
(B)	Explain concept of one dimension and two dimension array by giving suitable examples of both.	**[05]**
	OR	
	Explain binary searching technique with suitable example.	

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