

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

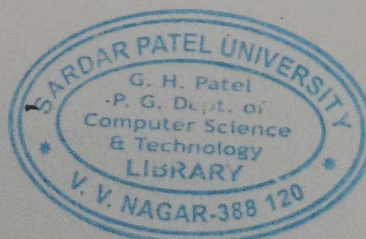
(b) List and explain various types of operators taking suitable examples. (05)

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)



*** The End ***

G. H. Patel P. G. Department of Computer Science and Technology
Master of Computer Applications (MCA)
SEM- I Internal Examinations
PS01CMCA32: Computer Networks
Tuesday, 9th 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. _____ layer is responsible for decide the route of the packets.
(A) Physical (B) Datalink
(C) Network (D) Transport
2. Full form of WAN is _____.
(A) Wide Area Network (B) Wireless Area Network
(C) Wide Area Node (D) Wireless Area Node
3. _____ is an unguided media.
(A) Twisted pair cable (B) Fiber optics cable
(C) Co-axial cable (D) None of these
4. _____ Protocol provide connection oriented service.
(A) TCP (B) UDP
(C) IP (D) None of these

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

[6]

1. Explain Simplex and Half-duplex with an example.
2. Discuss the goals of networking.
3. Full form of TCP & UDP.
4. Identify the class of the following IP addresses:
a. 125.10.55.96
b. 225.30.80.11

Q-3 Answer the following questions:

- A. List LAN topologies. Explain any two with its advantages and disadvantages.
- B. Difference between LAN, MAN & WAN

OR

- B. List networking devices. Explain any two in detail.

Q-4 Answer the following questions:

- A. Explain OSI reference model in detail.
- B. List the guided media used in networking. Explain any one in detail.

OR

- B. Explain IP Header Format in detail.



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.
- B. Explain Primary key and foreign key constraints with an example.

[5]

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

[5]

[5]

OR

- B. List types of joins. Explain any two with an example.

[5]



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

[04]

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.

[05]

- (A) Draw the **block diagram** of a simple computer. Write the main functions of various components shown in the diagram.

- (B) Write a short note on **pipeline machines**.

[05]

OR

Write a short note on **array processors**.

Q4. Answer in Detail.

[05]

- (A) Draw diagram of various types of data structure and write about each type in one line.

- (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.

-----XXX---XX---XXX-----

Q-1 Choose the most appropriate option for each question.

[4]

1. _____ uniquely identifies a row in each table.
(A) Primary Key (B) Not Null Key
(C) Foreign Key (D) Default Key
2. A music album have many artists and an artist have many albums, it is a _____ relationship.
(A) One-to-one (B) One-to-many
(C) Many-to-many (D) None of these
3. In existing table, to change the data type of a particular column _____ command is used.
(A) Edit (B) Modify
(C) Alter (D) Change
4. _____ means choosing the correct data type and length for a particular column
(A) Domain Integrity (B) Default Integrity
(C) Referential Integrity (D) Entity Integrity Constraint

[6]

Q-2 Answer the following questions. (Any Three):

1. Define: Unique key & Foreign Key
2. Discuss a pattern matching operator LIKE in brief with an example.
3. Explain check constraint in brief with an example.
4. List DDL and DCL commands.

Q-3 Answer the following questions.

- A. Explain the following inbuilt functions with an example.
LENGTH, ROUND, TO_NUMBER, TRANSLATE, LAST_DAY
 - B. Users associated with database systems and their roles.
- OR
- B. Discuss DBMS benefits in detail.

Q-4 Answer the following questions.

- A. Explain SELECT command syntax with an example.
 - B. Discuss Dr Edgar F. Codd's Rules for RDBMS.
- OR
- B. Write a short note on Data Models.

