

P G DEPARTMENT OF COMPUTER SCIENCE AND TECHNOLOGY
MASTER OF COMPUTER APPLICATIONS (MCA)
SEMESTER – I
PS01CMCA51 (PYTHON PROGRAMMING)
19TH DECEMBER, 2022

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 (04)
in your answer book.

- (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) The return type of input() Python function is _____.
[A] int [B] str [C] float [D] None of these
- (iv) What will be the output of following Python code :
set1 = {1,(3),1,(2)}
len(set1)
[A] 4 [B] 3 [C] 2 [D] None of these

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

- I. Explain range() with an example.
- II. Differentiate between list and tuple.
- III. Explain split() and translate().
- IV. Explain any two methods of Dictionary object with an example.
- V. Write any four keywords of Python.

Q-3 (a) What is Python? Write down its advantages and application areas. (05)
(b) Explain if statement and len() 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 a Python code to read N number of elements through keyboard. (05)
Display minimum number among them.

OR

(b) What is Set in Python? How can we create it? Explain any three set methods with an example. (05)

*** The End ***

Department of Computer Science

MCA – I Semester Internal Examinations - 2022

PS01CMCA52: Computer Networks

Tuesday, 20th December, 2022

Time: 11:00 am to 12:30 pm

Total Marks: 30

Q1. Select the appropriate answer of the following questions: [4]

- (i) Which of the following connectors are used with coaxial cables?
A) RJ45 B) RJ11
C)BNC D)RJ35
- (ii) In _____ mode of transmission both transmit and receive, but not same time.
A) Full Duplex B) Half Duplex
C)Simplex D)Duplex
- (iii) The distance of Geostationary Satellites from the earth surface is _____ km.
A) 30,000 B) 35,800
C) 36,800 D) 40,000
- (iv) _____ is the process of converting cipher text into plain text.
A) Encryption B) Decryption
C) Authentication D) Digital Sign

Q2. Answer the following questions: [Any Three] [6]

- (i) Full form of CSMA and FDM.
- (ii) Define the term Repeater.
- (iii) Discuss Transposition Cipher, in brief.
- (vi) Differentiate between flow control and congestion control.

Q3[a]: Write a note on Computer Networks. **[5]**

[b]: What do you mean by term topology? List ^{number of} topology. Explain any one in detail. **[5]**

OR

[b]: Explain LAN in Detail. **[5]**

Q4[a]: Discuss the fragmentation in detail. [5]

[b]: What is routing algorithm? Which are the categories of routing algorithm? Explain flooding routing algorithm in detail. **[5]**

OR

[b]: Write a note on firewall. **[5]**

P. G. Department of Computer Science and Technology
MASTER OF COMPUTER APPLICATION (MCA)
SEM- I Internal Examinations
PS01CMCA53: DATABASE MANAGEMENT SYSTEMS
Wednesday, 21st December, 2022

Time: 11:00 am to 12:30 pm

Max. Marks: 30

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

[4]-

1. What is the default date format in oracle?
(A) DD-MON-YY (B) DD-MM-YY
(C) DD-MON-YYYY (D) DD-MM-YYYY
2. Which of the following is DML command?
(A) Create (B) Delete
(C) Alter (D) Drop
3. _____ command is used to remove only existing records in a table.
(A) DROP (B) REMOVE
(C) DELETE (D) NONE OF THESE
4. Which of the following is not a types of join?
(A) Inner join (B) Outer join
(C) Cross join (D) Set join

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

[6]

1. Define: Foreign Key, Alternate key.
2. Difference between Primary key & Unique key.
3. List the benefits of DBMS.
4. List DCL commands and explain any one in brief.

Q-3 Answer the following questions:

- A. Explain **UPDATE** command syntax with an example. **[5]**
- B. List the various constraints and explain **any two** with an example. **[5]**
- OR**
- B. Explain **OR, LIKE, < >, BETWEEN, ||** operators with an example. **[5]**

Q-4 Answer the following questions:

- A. Explain SET operations with an example. **[5]**
- B. Explain Subqueries with an example. **[5]**
- OR**
- B. List types of joins. Explain **any two** join types with an example. **[5]**

Post Graduate Department of Computer Science & Technology
MCA – I Semester Internal Examinations - 2022
PS01CMCA55: Logical Organization of Computers
Friday, 23rd December, 2022

Time: 11:00 am to 12:30 pm

Total Marks: 30

1. Select the most appropriate option for each question : [4]

- (i) Which of the following components of a computer system is used to fetch, decode and execute instructions?
(A) ALU (B) CPU (C) cache (D) None of these.
- (ii) The IEEE single-precision floating-point representation uses
(A) 16 bits (B) 32 bits (C) 64 bits (D) None of these.
- (iii) The 2's complement of the binary number 1010 is _____.
(A) 0110 (B) 0101 (C) 0111 (D) 1001
- (iv) The NAND gate is equivalent to _____ gate.
(A) inverted-input NAND (B) inverted-input OR
(C) inverted-input AND (D) inverted-input NOR

2. Answer the following questions in brief : (Any Three) [6]

- (i) List the steps involved in instruction execution by a CPU.
- (ii) Construct a Hamming code for the character 'E' (ASCII: 69) considering odd parity.
- (iii) Draw a circuit diagram for the Boolean expression $(A+B).(A+C)$.
- (vi) Draw the 4-to-1 multiplexer circuit diagram.

3. (A) Draw the block diagram of a simple computer. Explain the functions performed by the main components shown in the diagram. [5]

(B) Draw and explain a diagram of the pipeline machine with 5 units. [5]

OR

(B) Write a short note on a CD-ROM. [5]

4.(A) State and prove the DeMorgan's theorems. [5]

(B) Explain the odd parity generator for a six bit word. [5]

OR

(B) Describe the Word Comparator with a circuit diagram. [5]

PS01CMCA56 (Practical based on PS01CMCA51) Internal Test
26th December, 2022

Marks: 30

- Read the total number of lines (say n).
- Generate and print the following pattern using the value of n.

Output :

1 2 3 2 1	1 2 3 4 5 4 3 2 1	1
2 3 2	2 3 4 5 4 3 2	
3	3 4 5 4 3	
	4 5 4	
	5	

- Read a string consisting of upper and/or lower case characters, digits and special characters.
- Count and display length of string, no. of upper case characters, no. of lower case characters, no. of blank space characters, no. of digits and no. of special characters within a string. Display output as show in the following example. [Note : In case, input string may or may not consists of all these different types of characters. In case, if it not present within the string, while displaying output simple display as 00 (means not found)]

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Output : The string is           : This#String$is@a&simple1
          Length of string         : 24
          Total no. of upper case characters : 02
          Total no. of lower case characters : 17
          Total no. of blank space characters : 00
          Total no. of digits       : 01
          Total no. of special characters : 04

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Output : The string is : Mera Bharat Mahan
           Length of string : 17
           Total no. of upper case characters : 03
           Total no. of lower case characters : 12
           Total no. of blank space characters : 02
           Total no. of digits : 00
           Total no. of special characters : 00

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P. G. Department of Computer Science and Technology
MCA - I Internal Examinations
PS01CMCA56 (Practical) based on
PS01CMCA53 & PS01CMCA54

Date: Saturday, 24th December, 2022 Time: 3 Hours

Q-1 Oracle Section

Employee_Master (Emp_id (P.K.), Emp_name, Emp_desi) [20]
Project_Master (Project_id (P.K.), Project_name, Project_cost)
Emp_Proj (Emp_id (F.K.), Project_id (F.K.))

Insert at least 5 records in each table.

- (i) Display all the employees name and designation.
- (ii) Change the name of an employee to 'Ashok' whose
Emp_id = 2;
- (iii) Remove the records whose emp_name start with 'A'.
- (iv) Display designation wise total number of employee.
- (v) Display the name of the project having highest cost.

Note: Save file with the name **Q1nn.txt** [where nn is the last two digits of your PID]
which contains

- Syntax of all table creation
- Records in all the tables.
- Source Code of queries & its Output

Q-2 Linux Section

[10]

- 1) Write a bash file (named as **q2nn.sh**) to get the detailed list of all users
- 2) Write a bash file (named as **q3nn.sh**) to read three numbers from the user and display maximum from them..