

Gurdasidevi Institute of Management and Technology (GIMT)
(Affiliated with IKG. Punjab Technical University)

ASSIGNMENT

Course	PGDCA / M.Sc(IT)	Semester	1st
Mcode	76972	Subject Code	PGCA1902
Subject	Fundamentals of Computer and Programming in Python		

Answer the following Questions in about 500 words each. (Write Any Three) (Long Questions)

1. Explain different types of computer languages and compare them. Also discuss the role of operating system and utility programs in computing.
2. There are Mutable and Immutable data types in python. List both of them with the advantages and disadvantages of using them in any real-time scenario of your choice.
3. Write a program that uses exactly four python "for loops" to print the sequence of letters ahead :
AAAAAAAAAABBBBBBBCDCDCDCDEFFFFFFFG
4. What are python functions? What are the advantages of modularizing programs? Also explain what are user defined functions and anonymous functions.
5. Explain the significance of python modules using any examples of your choice.
6. What are exceptions? What is the role of exception handling? Explain in detail.

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ASSIGNMENT

Course	PGDCA / M.Sc(IT)	Semester	1st
Mcode	76971	Subject Code	PGCA1901
Subject	Mathematics		

Answer the following Questions in about 500 words each. (Write Any Three) (Long Questions)

1. Find the value of $\sqrt{0.01} + \sqrt{0.81} + \sqrt{1.21} + \sqrt{0.0009}$.
2. Find the smallest number by which 128 must be divided to obtain a perfect square.
3. a) Which of the given numbers is not a perfect cube ; 1000, 1728 and 100
b) Find the cube root of 110592 by prime factorization method.
4. a) In a hostel 15 members take tea, 8 members take coffee and 6 members take milk. If 5 members take tea and coffee both, 4 members take tea and milk both and none of them take coffee and milk both or all the three beverages. Find the number of members in the hostel assuming that every member takes at least one or the other beverages.
b) State and Prove Distribution Law of sets where \cup is distributive over \cap .
5. a) Show that $(A \cup B) - (A \cap B) = (A - B) \cup (B - A)$.
b) State and Prove De Morgan's law for Difference of sets.
6. a) Test the validity of the argument.
If a man is a bachelor, then he is unhappy.
If a man is unhappy, then he dies young.
Therefore bachelors die young.

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ASSIGNMENT

Course	PGDCA / M.Sc(IT)	Semester	1st
Mcode	76973	Subject Code	PGCA1903
Subject	Operating System		

Answer the following Questions in about 500 words each. (Write Any Three) (Long Questions)

1. Discuss the Simple Operating System structure. Describe the layered approach.
2. Define IPC. What are different methods used for logical implementations of message passing Systems.
3. What is deadlock? Explain deadlock prevention in detail?
4. Explain about advantages and disadvantages of paging. And explain difference between paging and segmentation.
5. What is demand paging? Explain it with address translation mechanism used. How a page table is implemented?
6. Explain different disk scheduling algorithms SCAN, CSCAN, CLOOK.

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ASSIGNMENT

Course	PGDCA / M.Sc(IT)	Semester	1st
Mcode	76974	Subject Code	PGCA1904
Subject	Relational Database Management System		

Answer the following Questions in about 500 words each. (Write Any Three) (Long Questions)

1. Explain the concept of data models in DBMS and discuss in detail the three-schema architecture.
2. Discuss in detail:
 - a) Magnetic disks
 - b) Primary and Secondary indexes.
3. Explain the concept of transaction management in DBMS using a real-life example. Why is conflict serializability important?
4. Discuss various aggregate functions available in SQL. Also, throw some light on the concept of join expressions.
5. Why normalization is required? Explain various normal forms available in DBMS in detail.
6. What are the features of a good relational design? Explain by citing instances.

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ASSIGNMENT

Course	PGDCA / M.Sc(IT)	Semester	1st
Mcode	76975	Subject Code	PGCA1905
Subject	Technical Communication		

Answer the following Questions in about 500 words each. (Write Any Three) (Long Questions)

1. What is Communication? What are the functions of Communication?
2. What is the process of communication? Explain Shannon & Weaver's model of communication.
3. What is non-verbal communication? Explain in detail the types of non-verbal communication.
4. Write a paragraph on 'Importance of Higher Education'.
5. Explain Technical Proposals, Research Papers, Dissertation & Thesis, Technical Reports
6. Explain the 4 Ps of Presentation along with examples.