

Roll No. ...2532671608...

ID-1010

P. G. D. C. A. (Second Semester)

EXAMINATION, May-June, 2025

PGDCA-107

DATABASE MANAGEMENT SYSTEM

Time : Three Hours

Maximum Marks : 100

Note : Attempt any *two* parts from each question. All questions carry equal marks.

Unit—I

1. (a) What are the key differences between data, information and knowledge in the context of DBMS ?
- (b) Explain the concept of data independence and its significance in DBMS architecture.
- (c) Describe the role of a data dictionary in DBMS and list its typically contents.

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Unit—II

2. (a) Define entities, attributes and relationships in the context of the Entity-Relationship model and provide an example of each.
- (b) What is the purpose of keys in E-R modelling, and how do primary and foreign keys differ ?
- (c) Explain the concepts of generalization and specialization in E-R modeling with a suitable example.

Unit—III

3. (a) Describe the structure of a relational database and explain how relational algebra is used to query it.
- (b) Differentiate between simple and complex queries in relational algebra with examples.
- (c) Compare and contrast domain relational calculus and Tuple relational calculus in terms of their approach to querying.

Unit—IV

4. (a) What are the common pitfalls in relational database design and how can they be avoided ?

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- (b) Explain the process of normalization and describe the differences between 1NF, 2NF and 3NF.
- (c) Define functional dependencies and discuss their role in achieving BCNF in database design.

Unit—V

5. (a) Explain the difference between DDL and DML in SQL, providing examples of commands for each.
- (b) How can integrity constraints be specified when creating a table in SQL and why are they important ?
- (c) Describe the purpose of views in SQL and demonstrate how to create and retrieve data from a view.

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P. G. D. C. A. (Second Semester)

EXAMINATION, May-June, 2025

PGDCA-108

ESSENTIALS OF E-COMMERCE AND HTML

Time : Three Hours

Maximum Marks : 100

Note : Attempt any *two* parts from each question. All questions carry equal marks.

Unit-I

1. (a) Describe Business models in E-Commerce environment.
- (b) What is FEDI ? Discuss FEDI for international trade transaction.

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- (c) What do you mean by emergence of E-commerce ? Discuss E-commerce on private networks.

Unit-II

2. (a) Describe security of data/information in the web environment.
- (b) What is B2B E-Commerce ? How does B2B work ? Why is B2B important ?
- (c) What is digital signature ? How it works ? Explain with example.

Unit-III

3. (a) Write the HTML code to design the following table :

PGDCA-I		PGDCA-II	
Theory	Lab	Theory	Lab
101	104	106	109
102	105	107	110
103	×	108	×

- (b) What is the website ? Explain web standards in detail.

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- (c) Explain about XHTML and XML. How does XML work ?

Unit-IV

4. (a) Write uses of FONT, BASEFONT and CENTER tag in the HTML with suitable example.
- (b) Write a HTML code to design the following frame :

10%	40%	50%
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As per above frame, window should be partitioned into 3 columns.

- (c) What are Hypertext Anchors ? Explain HREF in Anchors. Give example.

Unit-V

5. (a) Differentiate between static web pages and dynamic web pages.
- (b) Discuss hosting and promotion of your college website.
- (c) Explain Banner Advertisement of company of software development.

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**P. G. D. C. A. (Second Semester)
EXAMINATION, May-June, 2025**

PROGRAMMING IN PYTHON

(PGDCA-106)

Time : Three Hours

Maximum Marks : 100

Note : Attempt any *two* parts from each question. All questions carry equal marks.

Unit—I

1. (a) Explain the installation process of python and describe how to write, save and run a python script using the interactive shell and script editor.
- (b) Discuss the concept of data types and variables in python. Write a program to demonstrate the use of arithmetic, relational and logical operators.

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- (c) With suitable examples, differentiate between mutable and immutable variables. Explain how python handles expressions and error message during execution.

Unit—II

2. (a) Describe Python's control structures with examples. Also, explain the difference between break, continue and pass statements.
- (b) Write a python program using Input/Output functions to check whether a number is prime or not. Use appropriate branching and looping constructs.
- (c) Define a recursive function to calculate the factorial of a number. Explain the working of local and global variables within your function.

Unit—III

3. (a) Explain how python handles file operations. Write a python script to read from and write data into a text file.

- (b) Discuss the methods available for string manipulation in python. Write a program to reverse a string and count the number of vowels in it.
- (c) Illustrate how binary, octal and hexadecimal numbers are handled in python. Show conversion's between strings and numbers with examples.

Unit—IV

- 4. (a) Describe the basic operations on list in python.
- (b) Write a program that uses a dictionary to store student records and allows adding, removing and updating student data.
- (c) Compare queue, list and stack data structure with example.

Unit—V

- 5. (a) Explain how to import and use standard modules like math and random in python. Provide examples showing at least three functions from each module.

(b) Demonstrate exception handling in python with an example. Include the use of try, except, else and finally blocks.

(c) Create a user-defined exception class in python and write a program that raises the exception if the user enters a negative number.

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