23SSP312 / 22SSP315

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

Branch - **SOFTWARE SYSTEMS(Five years Integrated)**

DATABASE MANAGEMENT SYSTEM CONCEPTS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	A collection of concepts that can be used to describe the structure of a database is _____ a) Data type b) Data record c) Data model d) Data construct	K1	CO1
	2	Entity types that do not have key attributes of their own are called as_____ a) weak entity types b) poor entity types c) low entity types d) no key entity types	K2	CO1
2	3	Information about a file that is needed by the system programs that access the file records are _____ a) File Header b) File handler c) File operator d) File pointer	K1	CO2
	4	Which operation produce output of all pairs of rows from the two input relations? a) Union b) Join c) Cartesian product d) Natural join	K2	CO2
3	5	In SQL the basic statement for retrieving information from a database is _____ a) SELECT statement b) CREATE statement c) INSERT statement d) UPDATE statement	K1	CO3
	6	Which of the following can be set to execute before an event (insert, delete or update) rather than after it? a) Triggers b) Views c) Indexes d) Functions	K2	CO3
4	7	The goal of relational database design is_____ a) Eliminate redundancy b) Easy retrieval c) Both (a) and (b) d) Neither (a) nor (b)	K1	CO4
	8	_____ provide a simpler technique for reasoning about functional dependencies. a) Axioms b) Keys c) Normal forms d) Decomposition	K2	CO4
5	9	Identify the property of a system failure that should not result in the database forgetting about a transaction that is successfully completed. a) Durability b) Serializability c) Atomicity d) Isolation	K1	CO5
	10	A state where neither of these transactions can ever proceed with its normal execution is known as _____ a) Unlock b) Lock c) Deadlock d) Stop	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the insulation between Programs and Data, and Data Abstraction.	K5	CO1
		(OR)		
	11.b.	Explain the three-schema architecture with diagram.		
2	12.a.	Classify the types of indexes in file organization.	K4	CO2
		(OR)		
	12.b.	Analyze the use of relational algebra operations with example.		
3	13.a.	Discuss the aggregation commands in SQL.	K6	CO3
		(OR)		
	13.b.	Test the working principle of Triggers in Databases.		
4	14.a.	Examine how the functional dependency is used in database design.	K4	CO4
		(OR)		
	14.b.	Analyze the reduction of an E-R schema to tables with example.		
5	15.a.	Explain the storage structure of database to understand transactions.	K5	CO5
		(OR)		
	15.b.	Explain about Security & Integrity Threats.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions
ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Interpret about Entities, attributes and their relationships with example.	K5	CO1
2	17	Compare and analyze primary and secondary key retrieval methods in files.	K4	CO2
3	18	Analyze the basic data retrieval operation performed in SQL.	K4	CO3
4	19	Discuss how normalization fits into the overall database design process.	K6	CO4
5	20	Assess the two phase locking technique in concurrency control.	K5	CO5

Z-Z-Z END