

1C8114

Total No. of Questions : 20

Total No. of Pages : 03

Roll No. :

1C8114

MCA I-Sem. (Main/Back) Exam. - 2024

MCA-105 / Database Systems

Time : 3 Hours

Maximum Marks : 70

Min. Passing Marks : 28

Instructions to Candidates :

Attempt all ten questions from Part-A. All five questions from Part-B and three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data missing may suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

*Use of following supporting material is permitted during examination.
(As mentioned in Form No. 205)*

1.

2.

PART - A

(Word Limit 25)

[10×2=20]

Q. 1. What do you mean by Data Abstraction?

Q. 2. What is Database State?

Q. 3. Write the features of Object-Oriented database system.

No data type

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- Q. 4. What is Data Independence? *logical, physical*
- Q. 5. What are the features of PL/SQL Language?
- Q. 6. What is the difference between third normal form and Boyce Codd?
- Q. 7. What is Timestamp Based Protocol?
- Q. 8. List the types of data types used in PL/SQL. *varchar, int*
- Q. 9. What is Multimedia Database?
- Q. 10. Write the limitation of Conventional Database. *old, scalability, security*

PART - B

(Word Limit 100)

[5×4=20]

- Q. 1. Describe the three level architecture of DBMS.
- Q. 2. What are the comparison between E-R data model and object-oriented data model?
- Q. 3. What is Serializability? Define conflict and view serializability. *non serial, group*
- Q. 4. Describe the different states of transaction.
- Q. 5. Describe the various security issues of database system. *unauthorized access, (s/w)*

PART - C

(Any Three) / *DL, DB*

[3×10=30]

- Q. 1. Describe the structure of DBMS. Explain various components of database system. *Data, data maps, difficult*
- Q. 2. (a) Describe functional dependency. Why are some functional dependencies trivial?
- (b) Draw an E-R diagram of Bank Management system with appropriate entities, relationship and attributes. *entre*

- Q. 3. What types of looping structure are available in PL/SQL? Explain with suitable example. [10]
- Q. 4. What is exception handling in PL/SQL? Explain types of predefined Exception with one suitable example. [10]
- Q. 5. Write about following : [4×2.5=10]
- (a) Triggers
 - (b) Cursors
 - (c) Group functions
 - (d) Integrity Constraint

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