

Roll No. _____

22/3262**B.Sc. (Third Year) Examination, 2022****COMPUTER SCIENCE****Third Paper**

(Introduction to DBMS-SQL & Software

Engineering Concept)

*Time : 1.30 Hours]**[Maximum Marks : 75*

Note : Attempt questions of **Section-A** and **Section-B** as directed. The answers to short answer type questions should not exceed 150 words and the answers to long type questions should not exceed 350 words.

Section-A**(Short Answer Type Questions)****Note :** Attempt any **five** questions. $7 \times 5 = 35$ **P.T.O.****22/3262**

- I. Write down the responsibilities of a database Administrator.
- II. Differentiate between physical and logical data independence.
- III. Define the referential integrity constraint. Explain with an example.
- IV. Define Normalization. Why do we need to normalize databases.
- V. What is the difference between super keys and candidate keys?
- VI. What is Data Flow Diagram (DFD). Write down the limitations of DFD.
- VII. What is the purpose of software testing?
- VIII. What is the difference between verification and validation?

Section-B**(Long Answer Type Questions)**

Note : Attempt any **two** questions. 20×2=40

1. Discuss the waterfall model of software development in detail. What are the problems associated with the waterfall model?
2. Elaborate the three-level architecture of database system.
3. What is Entity-Relationship model? Explain the major constructs of ER model with example. <https://www.mgkvponline.com>
4. How is testing integrated with the life cycle of a software product? Is it sufficient to test a software product only at the end of its life cycle?

5. What do you understand by relational model of database system? Elaborate the major characteristics of relational database management system.