



SS – 395

III Semester B.A./B.Sc. Examination, Nov./Dec. 2018
(CBCS) (Fresh + Repeaters) (2015-16 and Onwards)
COMPUTER SCIENCE – III
Database Management System and Software Engineering

Time : 3 Hours

Max. Marks : 70

Instruction : Answer all Sections.

SECTION – A

I. Answer **any 10** questions. **Each** question carries **2** marks. (10×2=20)

- 1) Define DBMS. Give any two examples of Databases.
- 2) Define the terms :
 - i) Entity
 - ii) Attribute
- 3) What is a primary key ? Give an example.
- 4) What are prime and non-prime attributes ?
- 5) What is data redundancy ?
- 6) What is SQL ?
- 7) List the data types allowed in SQL.
- 8) Define software. What are the types of software products ?
- 9) What is agility ?
- 10) What is requirements engineering ?
- 11) What are UML models ?
- 12) What is software architecture ?

SECTION – B

II. Answer **any 5** of the following questions. (5×10=50)

- 13) a) Explain program data independence and data abstraction.
b) Write a short note on responsibilities of DBA. (5+5)
- 14) a) Explain three level DBMS architecture with a neat diagram.
b) What is an ER diagram ? Explain the ER notations used for various constructs used in database schema. (5+5)

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- 15) a) Explain UNION, Cartesian product operations in relational algebra with example.
b) What is Normalization ? Explain 3NF with an example. (5+5)
- 16) a) Write a note on relational calculus.
b) Explain DDL commands with an example. (5+5)
- 17) a) Briefly explain five aggregate functions in SQL.
b) Write the basic structure of PL/SQL with example. (5+5)
- 18) a) Explain the characteristics of software.
b) Explain waterfall model with a diagram. (5+5)
- 19) a) How are use cases developed ? Explain with an example.
b) What is DFD ? Explain the guidelines to create a DFD. (5+5)
- 20) a) What is coupling ? Explain different categories of coupling.
b) Write a short note on :
i) Unit testing
ii) Integration testing. (5+5)

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