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)**

P.T.O.

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)**