US – 417

IV Semester B.A./B.Sc. Examination, May 2017
(Repeaters) (2014-15 Only)
COMPUTER SCIENCE – IV
Software Engineering and Database Systems

Time : 3 Hours Max. Marks : 70

Instruction : *Answer* ***all*** *the Sections.*

SECTION – A

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

1) What are the responsibilities of DBA ?
2) Define DML. Mention the different operations of DML.
3) What is Attribute ?
4) Define primary key and foreign key.
5) What is normalization ?
6) Explain the ALTER command in SQL.
7) Define software and software engineering.
8) List out 4 software myths.
9) What is cohesion ?
10) What is a agility ?
11) What is coupling ?
12) What is meant by black box testing ?

SECTION – B

II. Answer the following questions. **Each** question carries **ten** marks. **(10×5=50)**

13) a) Explain the advantages of DBMS. **5**
b) Explain different types of SQL statements. **5**

OR

a) Discuss about various people involved in DBMS. **5**
b) Explain the functions of DBMS. **5**

14) a) Define ER diagram. Write a note on ER diagram notations. **5**
b) Write a note on Data Independence. **5**

OR

a) Explain Entity Integrity and Referential Integrity Rules. **5**
b) Explain different types of attributes. **5**

P.T.O.

15) a) Write a note on 2NF and 3NF. 5
b) Explain SELECT and PROJECT operation in relational algebra with example. 5

OR

a) Write a note on DML commands. 5
b) What are the different types of $\bowtie$ operations ? 5

16) a) Describe the three schema architecture of DBMS. 5
b) Write a note on DDL commands. 5

OR

a) Write a note on relational calculus. 5
b) Write a note on data model. 5

17) a) What is software engineering ? Explain different characteristics of software. 5
b) Write a note on waterfall model. 5

OR

a) Explain Delphi Cost Estimation Model. 5
b) Explain specialized software models. 5

18) a) What is software design ? Explain various design activities. 5
b) What is a software process ? Explain incremental process model. 5

OR

a) Write a note on spiral model in detail. 5
b) Write a note on agile process. 5

19) a) Write a note on software testing. 5
b) Explain COCOMO model. 5

OR

a) Differentiate between white box and black box testing techniques. 5
b) Write a note on software maintenance. 5

20) a) Write a note on SDLC. 5
b) Write a note on SQA. 5

OR

a) Define DFD. Explain the notations used in DFD with an example. 5
b) Explain coupling in detail. 5