Q.P. Code – 42435

Fourth Semester B.Sc. Degree Examination, September 2020

(CBCS Scheme)

Computer Science

SOFTWARE ENGINEERING AND DATABASE MANAGEMENT SYSTEM

Time : 3 Hours]   [Max. Marks : 90

Instructions to Candidates : Answer all the Sections.

SECTION – A

I. Answer any **TEN** questions :   (10 × 1 = 10)

1. What is the need of Software Engineering?

2. Define metrics.

3. Who developed spiral model?

4. Define Project Management.

5. Expand OOAD.

6. What is database?

7. What is the role of DBA?

8. What is Schema?

9. Define Tuple.

10. What is Primary key?

11. Write any two basic SQL data types.

12. What is Key constraint?

1

SECTION – B

II. Answer any **FIVE** questions :   (5 × 3 = 15)

13. Explain the characteristics of software.

14. Explain three types of metrics in Software Engineering.

15. Explain Block Box and White Box testing.

16. Explain any three functions of DBMS.

17. What is data independence? Explain types of data independence.

18. Explain different operations of relational Algebra.

19. Explain 3NF with an example.

SECTION – C

III. Answer any SIX questions :   (6 × 5 = 30)

20. Explain Waterfall Model in detail.

21. Describe the different phases of SDLC.

22. Explain system design activities.

23. Explain different categories of End-users.

24. Write Client-Server Architecture. Explain.

25. Explain different relationship between Entity sets.

26. What is abstraction? Explain Aggregation with an example.

27. Write Syntax for ALTER, UPDATE, INSERT, DELETE, SELECT.

SECTION – D

IV. Answer any **FIVE** questions :   (5 × 7 = 35)

28. Explain spiral model with neat diagram. Write its advantages and disadvantages.

29. (a) What is DFD? What are the components of DFD?

    (b) What are the characteristics of SRS?   (4 + 3)

30. (a) Describe the four main characteristics of Database approach.

    (b) What is data model? Explain different types of data models.   (4 + 3)

31. (a) Explain Three Schema Architecture.

    (b) Draw an ER-Diagram for Student database.   (4 + 3)

32. Explain different types of Attributes with an example.

33. (a) Explain DBMS languages.

    (b) Explain BCNF with an example.   (4 + 3)

34. A Library Database has a table with the following attributes. The primary keys are underlined.

    Library (Bookid Number, Title varchar2, Author varchar2, Publisher varhchar2, Year number)

    (a) Create the above table.

    (b) Add new attribute price the existing table.

    (c) Enter 5 tuples into the table.

    (d) Display all the tuples from the table.

    (e) Display different publisher from the table.

    (f) Arrange the tuples in the alphabetical order of Booktitle.

    (g) List the details of all books. Whose price range between Rs.200 to Rs.400.