

Question Paper Code : 3035

B.Sc. (Part-III) Examination, 2017

INTRODUCTION TO DBMS-SQL & SOFTWARE ENGINEERING CONCEPT

[Third Paper]

(BCS-303)

Time : Three Hours]

[Maximum Marks : 75

Note : Answer **five** questions in all. Question No. 1 is **compulsory**. Besides this, attempt **one** question from each unit.

1. Answer the following in brief : [31]
- (a) Write the characteristics of data in a database.
 - (b) Explain the advantages and disadvantages of the hierarchical database model.
 - (c) Differentiate between single value and multivalued attributes.
 - (d) Define referential integrity constraints by giving examples.

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(1)

[P.T.O.]

- (e) Explain the utility of group by clause by giving examples.
- (f) Define software engineering. Write the goals of software engineering.
- (g) Differentiate between failures and faults by giving examples.
- (h) Write the characteristics of a prototype model.
- (i) Define cohesion and coupling.
- (j) List different phases of project management.

UNIT - I

2. Discuss the purpose and utility of data models. Explain the advantages and disadvantages of Network model and elaborate the features of Relational model. [11]
3. Define the following terms : [11]
 - (a) Data redundancy and consistency
 - (b) Data atomicity

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(2)

- (c) Domain constraints
- (d) Concurrency control

UNIT-II

4. (a) Discuss the characteristics of SQL. [4]
 - (b) Discuss the role of E-R diagram by explaining entity and relationship. Draw an E-R diagram for university database. [7]
5. (a) Write the purpose of Normalization. Explain 1NF, 2NF and 3NF with example. [7]
 - (b) Explain functional dependency. [4]

UNIT - Iii

6. (a) Explain spiral model in detail with the help of a diagram.
 - (b) What is DFD ? Explain different symbols used in DFD.
7. (a) Explain COCOMO model in detail.

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(3)

[P.T.O.]

(b) Write notes on any two of the following :

(i) Transaction

(ii) SDLC

(iii) PERT-chart

UNIT - IV

8. (a) Explain in detail about white box and black box testing.

(b) What is project management. Explain various activities of project management.

9. (a) Distinguish between unit testing and system testing.

(b) What do you mean by maintenance ? Explain different types of maintenance.

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