Reg. No. :

Question Paper Code : P 1218

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Fourth Semester

Information Technology

CS 1353 — SOFTWARE ENGINEERING

(Common to B.E. Sixth Semester — Computer Science and Engineering)

(Regulation 2004)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define software.

2. Define Software Engineering.

3. What is partitioning?

4. What are the benefits of a prototype?

5. Define Data design.

6. Define Interface design.

7. State any four Software testing principles.

8. What is White box testing?

9. What are the methods of cost estimation?

10. What are the three different types of software maintenance?

PART B — (5 × 16 = 80 marks)

11. (a) A software project which is considered are very simple and the customer is in the position of giving all the requirements at the initial stage. Which Process model would you prefer for developing the project? Justify. (16)

Or

(b) What is a Proto type? Why prototype is considered as throwable one? (16)

12. (a) Discuss Data Dictionary in detail. Give suitable examples. (16)

Or

(b) Explain with examples, the rapid prototyping techniques in detail. (16)

13. (a) Explain data design in detail. (16)

Or

(b) Explain transform mapping in detail. (16)

14. (a) Explain Unit testing in detail. (Considerations and procedures). (16)

Or

(b) Discuss the Software Testing Strategic Issues. (16)

15. (a) Explain the COCOMO model of Software cost estimation. (16)

Or

(b) Explain the Delphi method of Software cost estimation. (16)

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Question Paper Code : P 1211

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009.

Fifth Semester

(Regulation 2004)

Computer Science and Engineering

CS 1301 — DATABASE MANAGEMENT SYSTEMS

(Common to Information Technology)

(Common to B.E. (Part-Time) Fourth Semester Regulation 2005)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   List four significant differences between file processing system and DBMS.

2.   Distinguish between relational algebra and relational calculus.

3.   Give the purpose of DDL and DML.

4.   How do triggers help database designers?

5.   Mention the advantage of using magnetic tape for storing the data.

6.   List out the various indexing techniques followed by the database system.

7.   What do you mean by concurrency control?

8.   Define the term ACID properties.

9.   In SQL how will you create a structured type? Give an example.

10.   How do the XML data differ from that of Relational data?

11. (a) Discuss the various design issues involved in ER database schema. (16)

Or

(b) (i) Explain the distinction between condition-defined and user-defined constraints in Generalization. Which of these constraints can the system check automatically? Give your answer. (8)

(ii) Construct an ER diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examinations conducted. (8)

12. (a) Explain the Third Normal Form with suitable example and compare with BCNF. (16)

Or

(b) For the following employee database

sales (dept, item, volume)

item (iname, type, color)

dept (dname, floor)

employee (eno, ename, manager_no, dept, salary, job_status)

Write the SQL statement for the following queries

(i) Find the items sold by no department in second floor (4)

(ii) Find the names of all the departments where all the employees earn less than their manager. (4)

(iii) Define the view to list the name and salary of Aarthi's manager. (4)

(iv) Is the view is updatable? If no, state why? (4)

13. (a) Explain the different methods of storing variable size records. (16)

Or

(b) Explain the addition and deletion operations by making use of B + tree. (16)

14. (a) (i) How will you implement atomicity in transactions? (8)

(ii) Describe the concept of serializability with suitable example. (8)

Or

(b) How is the atomicity maintained during concurrent transactions? How is locking implemented? Explain the protocol that is used to maintain the concurrency concept. (16)

15. (a) (i) A car rental company maintains a vehicle database for all vehicles in its current fleet. For all vehicles it includes vehicle-id, license-no, manufacturer, model, date-of-purchase and color. Special data types are included for certain vehicles.

Trucks : cargo-capacity

Sports Car : horsepower, renter-age-requirement

Vans : number-of-passengers

Construct an object-oriented database schema definition for this database.

Use inheritance wherever appropriate. (8)

(ii) For the following schema

Books (title, authorset setoff (Author), publisherset setoff (Publisher))

Author (first-name, last-name)

Publisher (name, branch)

Give the XML representation and its DTD. (8)

Or

(b) (i) Describe the Data Warehouse Architecture with a neat diagram. (7)

(ii) Explain the data mining applications – classification, association and clustering. (9)

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