

C 26894

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Name.....

Reg. No.....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
MAY 2012**

IT 09 405—DATA MODELLING AND DESIGN

(2009 admissions)

Time : Three Hours

Maximum : 70 Marks



Part A

Answer all questions.

1. Mention any four datatypes supported Java programming language.
2. What do you mean by inheritance ?
3. What is an object ? Give an example for an object.
4. State the main importance of behavioural modeling.
5. What is the significance of deployment diagram ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

1. What is a variable ? How does it differ from constant ? How will you declare and initialize available in Java ?
2. List out various operators available in Java programming language.
3. Draw the representation of a class in UML.
4. Mention the applications of use case modelling.
5. Give an example of UML collaboration diagram.
6. Distinguish between analysis and design.

(4 × 5 = 20 marks)

Part C

Answer all questions.

1. Explain in detail the features of Java programming language.

Or

2. What do you mean by inheritance ? Explain in detail the different types of inheritance in Java.
3. Draw an object scenario diagram for checking out a book in Booch notation. In this scenario chana can check out a book by walking upto the terminal and entering his name and employee i.d. The use inter actor (which represents the GUI part of the application) returns the employee ID number to the librarian, which then calls the ID cheker to verify that this is a valid number. Then, the librarian calls the division (which represents the user's organization) to get the borrower that

Turn over

corresponds to Chana. The borrower then returns from persistent sloe and the division hands it to the librarian. The librarian then calls get transaction on the user interactor to see what Chana wants to do which in this case is check out another book. The librarian gets this information and then calls check borrower status () to see if he can. This triggers can borrow () on the borrower that corresponds to Chana, which confirms that since he only has a single on overdue book out, he can borrow another one. The librarian then calls get lendable to see what new book Chana wants. After getting this information the librarian goes to the collection and asks for the book.

Or

4. Explain in detail about the following concepts in UML :
 - (a) Packages.
 - (b) Interfaces.
 - (c) Types.
 - (d) Roles.
5. For a typical ATM example, identify the actors and use cases involved in it. Develop a use case diagram for the same.

Or

6. A person 'A' wants to transfer an amount 'X' from his account to another person 'B's account. Develop.
 - (a) Sequence diagram and
 - (b) Collaboration diagram depicting the same.
7. (a) How UML helps in software development. What softwares are available in the market to work with UML ?
 - (b) How do we implement the concept of association in Java ?

Or

8. Write short notes on structural and behavioural models. What are the constituent diagram of these two models ? Discuss in brief of any two constituent diagrams of each type.

(4 × 10 = 40 marks)