

Time: 1.5 Hours

Note: Answer ALL questions.

Assume suitable missing data, if any.

Q1. Answer the following:

- a) Define the object "Employee" with possible attributes and operations.
- b) Define object interaction.
- c) What is meant by model?
- d) Define Actor.
- e) Explain UML.

[1X5=5]

Q2. What is the significance of state chart diagram while designing the system? Explain the structure of state chart diagram of ATM Machine and illustrate the working. [5]

Q3. Differentiate between with suitable example:

- a) Traditional software development life cycle (SDLC) with object oriented SDLC.
- b) Sequence Diagram and Collaboration Diagram

[5X2=10]

Q4. How can you judge the goodness of the object oriented design? Explain in brief about all the quality parameters. [5]

Q5. Differentiate between aggregation and generalization. State a problem of processing of order and generating invoices of sales in a medical store. Design a class diagram. Describe the role of each class, relationship between classes and operations defined. [5]

END

CO 326: Object Oriented Software Engineering

Time: 1:30 Hours

Max. Marks: 30

Note: Answer all questions.

Assume suitable missing data, if any.

Q 1. Give the characteristics of an object-oriented system. What are the main advantages of object-oriented software development? (5)

Q 2. Consider the employee schema (emp-ID, emp-name, phone, email, street and city). Give the class representation along with the attribute types. (4)

Q 3. Explain in detail the various types of relationships between classes with the help of suitable example. (3)

Q 4. Consider a result management system of a university. Identify the objects, classes, attributes and methods. (3)

Q 5. What is RUP? Explain the various phases of RUP along with their outcomes. (5)

Q 6. Discuss the role of use cases in object oriented requirement analysis. Draw a use case diagram for e-shopping system. (5)

Q 7. What is object oriented design (OOD)? How is the OOD different from coding a software? (5)

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END

Total No. of Pages 2  
SIXTH SEMESTER  
END SEMESTER EXAMINATION

Roll No. ....  
B-Tech. (SE)  
May-2019

### CO326 OBJECT ORIENTED SOFTWARE ENGINEERING

Time: 3 Hours

Max. Marks: 40

Note: Question No. 1 is compulsory.  
Attempt any THREE from the remaining questions.  
Assume suitable missing data, if any.

**Q1.** Answer all the following questions:

- i. What is the significance of rounds in the spiral model?
- ii. Explain modifiability in requirement specification.
- iii. Define the term cohesion in the context of the object-oriented design of systems.
- iv. Define aggregation and generalization with an example.
- v. Explain sequence diagram with an example.

[2\*5=10]

**Q2.**

- i. Mention the models in the analysis phase of the Rumbaugh Methodology and explain their roles for describing the system.
- ii. Compare iterative model and incremental model in view of following parameters: user involvement, requirement change, maintenance, knowledge of developers, within budget.

[5+5=10]

**Q3.**

- i. How UML diagrams constructive for the development of a typical software system? Explain state chart diagram with a suitable reason considering the example of employee information system.

P.T.O →

Total No. of Pages 1

SIXTH SEMESTER

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B.Tech.

MID SEMESTER EXAMINATION

(March-2019)

CO326 OBJECT ORIENTED SOFTWARE ENGINEERING

Time: 1.5 Hours

Max. Marks: 30

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END

Total No. of Pages 2  
SIXTH SEMESTER  
END SEMESTER EXAMINATION

Roll No. ....  
B.Tech. (SE)  
May-2019

### CO326 OBJECT ORIENTED SOFTWARE ENGINEERING

Time: 3 Hours

Max. Marks: 40

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- ii. Compare iterative model and incremental model in view of following parameters: user involvement, requirement change, maintenance, knowledge of developers, within budget.

[5+5=10]

**Q3.**

- i. How UML diagrams constructive for the development of a typical software system? Explain state chart diagram with a suitable reason considering the example of employee information system.

P.T.O →

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- ii. Consider a program which takes a date as an input and checks whether it is a valid date or not. Its input is a triple of day, month and year with the values in the following ranges:
- $1 \leq \text{month} \leq 12$   
 $1 \leq \text{day} \leq 31$   
 $2000 \leq \text{year} \leq 2070$
- Generate boundary value analysis test cases. [5+5=10]

Q4.

- i. Explain the expected benefits of using CASE tools for software system developers and software maintenance teams.  
ii. Explain Halstead's software science metrics. How can we estimate program length? [5+5=10]

Q5.

- i. Consider the database application project with the following characteristics:  
a. The application has 45 key classes.  
b. A graphical user interface is required.  
Calculate the effort to develop such a project given 20 person days.  
ii. Explain the Fountain model with the help of a diagram. What is the significance of arrows within the circle in this model? Also, list the advantages and disadvantages of this model.

[5+5=10]

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END

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B.Tech.

SIXTH SEMESTER

(March-2019)

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