Total No. of Questions : 8]

SEAT No. :

PD4582

[Total No. of Pages : 2

[6404]-87
B.E. (Computer Engineering)
OBJECT ORIENTED MODELING & DESIGN
(2019 Pattern) (Semester - VII) (Elective - III) (410244 D)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Write a short note on Use case. **[5]**

b) What is Sequence model? Explain with suitable example. **[5]**

c) Draw and explain use case diagram for ATM system. Explain at least two use case with the help of use case scenario. **[8]**

OR

Q2) a) Explain the relation of class model and state model. **[5]**

b) Design use case diagram for online reservation system. **[5]**

c) What do you mean by activity? Consider the ATM system scenario. Identify and explain at least three activities involved in the ATM system scenario. **[8]**

Q3) a) Write a short note on: Architecture style. **[5]**

b) What are the different categories of External Control? Explain in Detail. **[5]**

c) Explain **[7]**

i) Batch Tranformation

ii) Continuous Transformation

OR

P.T.O.

Q4) a) Explain Global Resource Handling **[5]**

b) Explain: **[5]**

i) External Control

ii) Internal Control

c) Explain: **[7]**

i) Interactive interface

ii) Dynamic simulation

iii) Real time system

iv) Transaction manager

Q5) a) Write short note on Data Dictionary. **[5]**

b) Explain data storage management in software modeling. **[5]**

c) What do you mean by scenario? What is the purpose of defining the scenario? Explain with Example. **[7]**

OR

Q6) a) Explain in detail the process of preparing an Activity Diagram from Use case Diagram. **[5]**

b) What do you mean by system design? Illustrate with suitable example. **[5]**

c) Prepare a data dictionary for ATM system scenario. Explain each element in brief. **[7]**

Q7) a) What is Design Pattern? Explain in Detail. **[5]**

b) Explain: Strategy Design Pattern. **[5]**

c) Explain: i) Creational Pattern **[8]**

ii) Structural Pattern

iii) Behavioral Pattern

OR

Q8) a) Explain the basic elements of design pattern. **[5]**

b) State and explain the entities involved in a design pattern. **[5]**

c) List and explain different types of design pattern. **[8]**

* * *

Total No. of Questions : 8]

SEAT No. :

PC2374

[Total No. of Pages :2

[6354]-491

B.E. (Computer Engineering)

OBJECT ORIENTED MODELING & DESIGN

(2019 Pattern) (Semester- VII) (Elective - III) (410244D)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) What is an Actor, a Use Case, Use case diagram, Explain various relationships in use case diagram with example. **[5]**

b) Draw State Diagram for cash Despenser and explain concurrency. **[5]**

c) Draw an ACTIVITY diagram for describing how selling two wheeler to a customer take place at a dealers Place. Customer can enquire about the two wheeler model available, a sale person is assign to show the customer the vehicles, the sale person show the available two wheelers, customer choose the model for purchase, he can optionally take, accessories like rear-guard etc,ask for a quotation and choose to purchase a vehicle if interested Explain notation used in a sentence each. **[8]**

OR

Q2) a) Write the Use case description for Buying a beverage **[5]**

b) Model a SEQUENCE diagram for 'Rent a Car'. Use Case in an online web based car rental application. Here are some of the assumptions. The customer needs to first choose the type of the car he wants to rent. The car database is maintained in the system organized into type like family car, sports car etc. Based on the car available, the rates of rental are shown, the booking is then made, confirmed, the booking details stored in the system and user is issued an electronic confirmation of the booking. **[5]**

c) Draw Sate diagram for telephone line connection. Give the meaning of Event, State and transition in the diagram. **[8]**

P.T.O.

Study material provided by: V. B. L

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Q3) a) Illustrate different reuse things that can be considered during modelling a system. **[5]**

b) What are the different Software Control Strategy used in system design. **[5]**

c) Illustrate what is Subsystem along with ways in which Subsystems can communicate. **[7]**

OR

Q4) a) While designing a system explain how data storage management is designed. **[5]**

b) How Global Resources are Handled while System design **[5]**

c) What are the different architecture styles followed in Software design. Draw Architecture of ATM system. **[7]**

Q5) a) How adjustment of inheritance is done in class design. Explain. **[5]**

b) Explain the tasks involved in design optimization. **[5]**

c) What is the importance of adjustment of inheritance? Discuss the steps doing it. **[7]**

OR

Q6) a) What are the steps involved in class design. Explain How to bridge the gap from high level requirement to low level services. **[5]**

b) Discuss how you identify use cases and actors with respect to use case diagrams? **[5]**

c) Explain the following terms in relation to class design **[7]**

i) Refactoring

ii) Reification.

Q7) a) Explain three important parts of design pattern. **[5]**

b) What is communication pattern? Explain any one communication pattern in detail. **[5]**

c) What is Design Pattern? Explain different types of design Patterns. **[8]**

OR

Q8) a) Explain counted pointer example in detailed. **[5]**

b) What is view handler pattern? Explain in detail. **[5]**

c) Write short note on **[8]**

i) Client Dispatcher server

ii) Publisher subscriber

Total No. of Questions : 8]

SEAT No. :

PB2249

[Total No. of Pages : 2

[6263]-87

B.E. (Computer Engineering)

OBJECT ORIENTED MODELING & DESIGN

(2019 Pattern) (Semester - VII) (410244 D) (Elective - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) What is an Actor, a Use Case, Use case diagram, Explain various relationships in use case diagram with example. **[5]**

b) What is Sequence model? Explain with suitable example. **[5]**

c) Draw and explain use case diagram for ATM system. Explain at least two use case with the help of use case scenario. **[8]**

OR

Q2) a) Explain the relation of class model and state model. **[5]**

b) Design use case diagram for online reservation system. **[5]**

c) What do you mean by activity? Consider the ATM system scenario. Identify and explain at least three activities involved in the ATM system scenario. **[8]**

Q3) a) Write a short note on: Architecture style. **[5]**

b) What are the different categories of External Control? Explain in Detail. **[5]**

c) Explain **[7]**

i) Batch Transformation

ii) Continuous Transformation

OR

Q4) a) Explain Global resource handling. **[5]**

b) What are the different architecture styles followed in software design. **[5]** Draw Architecture of ATM system.

c) Explain: **[7]**

i) Interactive interface

ii) Dynamic simulation

iii) Real time system

iv) Transaction manager

P.T.O.

Q5) a) Write short note on Data Dictionary. **[5]**

b) Explain the tasks involved in design optimization. **[5]**

c) What do you mean by scenario? What is the purpose of defining the scenario? Explain with Example. **[7]**

OR

Q6) a) Explain in detail the process of preparing an Activity Diagram from Use case Diagram. **[5]**

b) What do you mean by system design? Illustrate with suitable example. **[5]**

c) Prepare a data dictionary for ATM system scenario. Explain each element in brief. **[7]**

Q7) a) What is Design Pattern? Explain in Detail. **[5]**

b) Explain: Strategy Design Pattern. **[5]**

c) Explain: **[8]**

i) Creational pattern

ii) Structural Pattern

iii) Behavioral Pattern

OR

Q8) a) Explain the basic elements of design pattern. **[5]**

b) State and explain the entities involved in a design pattern. **[5]**

c) List and explain different types of design pattern. **[8]**

Total No. of Questions : 8]

SEAT No. :

P-6557

[Total No. of Pages : 2

[6181]-107
B.E. (Computer Engineering)
OBJECT ORIENTED MODELING & DESIGN
(2019 Pattern) (Semester-VII) (Elective - III) (410244D)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) State the relationship between class and state model. **[5]**

b) Draw a detailed sequence diagram for Online Shopping. **[5]**

c) What do you mean by activity? How do activities, branches and Concurrent activities are represented. Prepare an activity diagram that elaborates the details of Logging into an email system. **[8]**

OR

Q2) a) What are composite states ? Describe categories of composite states. **[5]**

b) Draw Activity diagram for Hospital Management System. **[5]**

c) Explain the following terms with respect to use case model with notation: **[8]**

i) Use case ii) Actor

iii) System boundry iv) Include

Q3) a) Write a short note on: System performance estimation. **[5]**

b) Explain in brief Global resource handling. **[5]**

c) Enlist architectural styles. Explain any Four in detail. **[7]**

OR

Q4) a) What are the different caregories of external control strategies ? Explain in brief. **[5]**

b) Define Reuse plan. Explain following term with respect to reuse plan: **[5]**

i) Framework ii) Pattern

c) What is meant by sub system in system design? How we can organize system into subsystems ? Explain in detail. **[7]**

P.T.O.

Q5) a) Draw a class model by using Fine tuning Generalization and Realizing associations. **[5]**

b) What are the steps to design algorithms? Explain in detail. **[5]**

c) Define Reverse engineering. What are inputs provided to reverse engineering? What are the outputs from reverse engineering? **[7]**

OR

Q6) a) Write short note on : **[5]**

i) Steps involved in organizing Class Design

ii) Refactoring

b) What are the steps involves in implementation modeling? Explain in detail. **[5]**

c) Write short note on: **[7]**

i) Wrapping ii) Maintenance

Q7) a) Explain about Client-Dispatcher-Server design pattern. **[5]**

b) Explain different Elements of Design Patterns. **[5]**

c) Show and explain relationships between patterns. **[8]**

OR

Q8) a) What is Pattern? Discuss pattern categories in detail. **[5]**

b) Discuss structure and variants of the Publisher-Subscriber design pattern. **[5]**

c) Define Idioms. What can Idioms provide? Where to find Idioms? **[8]**

Total No. of Questions : 8]

SEAT No. :

P551

[Total No. of Pages : 2

[6004]-486

B.E. (Computer Engineering)

OBJECT ORIENTED MODELING AND DESIGN

(2019 Pattern) (Semester - VII) (Elective - III) (410244D)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Neat diagrams must be drawn wherever necessary.***
5) ***Assume suitable data if necessary.***

Q1) a) What are Composite states? Explain Categories of Composite states **[6]**

b) Explain Following terms with respect to use case **[6]**

i) Use Case

ii) Actor

iii) System Boundary

c) Draw Use case Diagram for ATM Machine **[6]**

OR

Q2) a) What do you mean by activity? Consider ATM scenario, Identify' and explain at least five activities involved in ATM system scenario **[6]**

b) What is Sequence diagram? Discuss components of sequence diagram **[6]**

c) Draw Sequence diagram for ATM Machine (Complete view) **[6]**

Q3) a) Define Reuse Plan. Explain in brief following term with respect to reuse plan **[6]**

i) Library

ii) Framework

iii) Pattern

b) Explain data storage management in software modelling. **[6]**

c) What do you mean by Batch Transformation and Continuous transformation? **[5]**

OR

P.T.O.

Q4) a) Explain in detail components of a component diagram **[6]**

b) Explain Following with respect to deployment diagram **[6]**

i) Node

ii) Association

iii) Dependency

c) Draw Deployment diagram for ATM System **[5]**

Q5) a) Give detailed guidelines for finding and defining classes involved in software system scenario **[6]**

b) List and Explain different types of dependencies in package **[6]**

c) Discuss how you identify, Use cases and actors with respect to use case diagrams? **[6]**

OR

Q6) a) Discuss different architectural styles **[6]**

b) What are different categories of external control? Explain in Brief **[6]**

c) Explain in brief Global Resource handling **[6]**

Q7) a) What is Design Pattern? Explain different types of design Patterns **[6]**

b) State and explain entities involved in design pattern **[6]**

c) Explain Strategy Design patterns **[5]**

OR

Q8) a) Explain Observer design pattern **[6]**

b) Explain elements of a design pattern **[6]**

c) Explain State design Pattern **[5]**

Total No. of Questions : 8]

SEAT No. :

PA-916

[Total No. of Pages : 2

[5927]-348

B.E. (Computer Engineering)
OBJECT ORIENTED MODELING AND DESIGN
(2019 Pattern) (Semester - VII) (410244 D) (Elective - III)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q.No.1 or 2, Q.No.3 or 4, Q.No. 5 or 6, Q.No. 7 or 8.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume suitable data, if necessary.***

Q1) a) What is Interaction Diagram? Explain Different Components of Sequence diagram. **[6]**

b) Compare Sequence diagram and Activity diagram. **[6]**

c) Design use case diagram for online reservation system. **[6]**

OR

Q2) a) What are Composite states? Explain Categories of Composite states. **[6]**

b) Explain following terms with respect to use case. **[6]**

i) Use Case.

ii) Actor.

iii) System Boundary.

c) Draw Activity Diagram for ATM Machine. **[6]**

Q3) a) Discuss the steps involved in constructing Application class model. Explain with suitable example. **[6]**

b) What is meant by sub system in system design? Explain breaking of system into subsystems and allocation of subsystems. **[6]**

c) What are categories of External Control? Explain in Detail. **[5]**

OR

Q4) a) Explain in detail components of a component diagram. **[6]**

b) Explain following with respect to deployment diagram. **[6]**

i) Node.

ii) Association.

iii) Dependency

c) Draw Deployment diagram for ATM System. **[5]**

P.T.O.

Q5) a) Prepare a data dictionary for a ATM system scenario. Explain each element in a brief. **[6]**

b) What is abstraction? Explain different categories of abstraction. **[6]**

c) What do you mean by System Design? Explain with suitable example. **[6]**

OR

Q6) a) Give detailed guidelines for finding and defining classes involved in software system scenario. **[6]**

b) List and Explain different types of dependencies in package. **[6]**

c) Discuss how you identify use cases and actors with respect to use case diagrams? **[6]**

Q7) a) Explain. **[6]**

i) Creational Patterns.

ii) Structural Patterns.

iii) Behavioral Pattern.

b) Discuss Adapter Design Pattern. **[6]**

c) Discuss Observer Design Pattern. **[5]**

OR

Q8) a) What is Design Pattern? Explain different types of design Patterns. **[6]**

b) State and explain entities involved in design pattern. **[6]**

c) Explain Strategy Design patterns. **[5]**