(Please write your Exam Roll No.) Exam Roll No. .....

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH(CSE/IT)] NOVEMBER-DECEMBER 2018

Paper Code: IT-309 **Subject: Object Oriented Software Engineering**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt five questions in all including Q.no.1 which is compulsory.

Q1 Answer following in brief: **(Any Five)** **(5x5=25)**

(a) What is object orientation. How the objects & classes are identified in an object model?
(b) Write a note on inheritance & polymorphism.
(c) How object oriented system developments is carried out? Explain its phases.
(d) Differentiate between Association, Aggregation, Composition, Abstraction, Generalization, and Realization relationship. Differentiate between links and associations
(e) In UML class diagrams, what are Boundary Classes, Control Classes, and Entity Classes? Explain using suitable diagram.
(f) What is behavioral modeling? How constraints are handled in behavioral modeling?
(g) What is multiple inheritance. How it can it be shown using generalization?

Q2 **(6+6.5=12.5)**

(a) Enlist various building blocks of UML. What are the goals of UML? Discuss the advantages of using UML? In what sense UML is unified?

(b) Discuss different views supported by UML diagrams and explain the significance of Packages? Prepare an object and state transition diagrams for priority queues or heaps storing numbers, where in the operations of the shift up and shift down are possible.

Q3 **(6+6.5=12.5)**

(a) Write a note on Object Oriented Analysis. Briefly write the characteristics of Booch Method, the Coad and Yourdan method, Jacobson method and Raumbaugh method.

(b) Write a note on Object Oriented Design. Discuss the importance of system design? What are activities and actions in dynamic model?

Q4 **(6+6.5=12.5)**

(a) How the classes are identified in an object model? What is its significance? Draw a class diagram of the class student. Make necessary assumptions but clearly state them all. Clearly mark private, public and protected members.

(b) Explain the significance of object diagrams. What are the essential characteristics of object diagram? Create an object diagram for an employee by making some assumptions.

Q5 **(6+6.5=12.5)**

(a) What are abstract classes? How it is different from a normal class? What is their significance? What are static functions?

(b) What are components of use case model? Create a use case model for library management system. Explain 'Extends' relationship with suitable example.

Q6 **(6+6.5=12.5)**

(a) Describe the components of activity diagram. Draw a sequence diagram for a successful login into a system by a user. Describe the components of sequence diagram.

(b) Describe the components and uses of interaction diagrams.

Q7 **(6+6.5=12.5)**

(a) 'State diagrams depict the life cycle of an object' comment. Explain the need for deployment diagrams with suitable examples. What are collaboration diagrams?

(b) What are Components? How Components are organized? Explain the usage of component diagrams with suitable examples.

Q8 **(6.5+6=12.5)**

(a) Differentiate between testing and debugging? Explain the Testing Life Cycle. Write a note on Object Oriented testing strategies?

(b) Write a note on following testing in brief
- Black Box and White Box Testing
- Alpha and Beta Testing
- Stress Testing
- Regression Testing
- Performance Testing
- Acceptance Testing

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(Please write your Exam Roll No.)

Exam Roll No. .....

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2016 JANUARY 2017

Paper Code: IT-309 **Subject: Object Oriented Software Engineering**

Time : 3 Hours **Maximum Marks :60**

Note: Attempt all questions as directed. Internal choice is indicated.

Q1 Answer the following questions: **(10x2=20)**

(a) Why is analysis required for a difficult task?
(b) What are the challenges in designing with inheritance?
(c) What is Random Testing?
(d) What is Guard Condition?
(e) Give examples of Composition and Aggregation.
(f) What are the difference between pattern and framework?
(g) What are Identifying Actors?
(h) What are objects in Analysis and Process?
(i) Differentiate between method and Process.
(j) What are the limitations of state transition table?

Unit-I

Q2 (a) What are the software engineering development activities? Briefly explain each of activities in detail. **(8)**

(b) Differentiate between ISO 9001 and SEI – CMM quality standards. **(2)**

OR

Q3 What is the need of requirement elicitation? What are the Techniques for requirements elicitation? **(10)**

Unit-II

Q4 (a) Draw a Requirement model for online hotel reservation. **(5)**

(b) Differentiate between different types analysis objects for a University Examination System. **(5)**

OR

Q5 (a) What is Analysis Model? For a hospital System make Analysis Model and Design Model. **(5)**

(b) Draw a use case diagram for the admission process in a college where management decides whether to grant admission to a student or not. **(5)**

Unit-III

Q6 (a) What are structural and behavioral things in UML? Explain **(5)**

(b) A publisher publishes different books. An author can write different books but for the same publisher. A contract is signed between the publisher and the author. Reports such as the number of books sold, number of complimentary copies given, Royalty amount to be paid to the author etc. are generated from the system.

Draw a class diagram and an object diagram for the above case. **(5)**

OR

Q7 Discuss the activities performed during the design phase. Explain with the help of an example. **(10)**

Unit-IV

Q8 Write short notes on **any two**: **(5x2=10)**

(a) Fault Based Testing
(b) Object Modeling Techniques
(c) Testing process

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(Please write your Exam Roll No.) Exam Roll No. .....

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2015-JANUARY 2016

Paper Code: IT-309 **Subject: Object Oriented Software Engineering**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any five questions including Q.no.1 which is compulsory.

Q1 Write short note on the followings **(any four)**: **(4x5=20)**
(a) Unit testing
(b) Entity class, interface class and control class.
(c) Discuss the V model of testing.
(d) Dimensions of Analysis Model.
(e) Software measurements and software metrics.
(f) Defects density and Defect removal.

Q2 (a) Explain spiral model of software development life cycle in detail with the help of neat diagram. **(5)**
(b) What are the drawbacks of waterfall model? How they are overcome by other SDLC models? Discuss in brief. **(5)**

Q3 (a) What are the various methods for requirement elicitation? List all of them and explain any one in detail. **(5)**
(b) SRS document is created after the requirement elicitation. List various characteristics of good SRS design. **(5)**

Q4 (a) What is use-case model? Why is the use-case modeling useful in analysis? **(5)**
(b) Draw a neat USE-CASE diagram for ATM cash withdrawal mechanism. Make assumptions if necessary but clearly state them. **(5)**

Q5 (a) Identify various types of relationship might exists between objects. How the association is different from aggregation? **(5)**
(b) What are the various standards commonly followed during software development life cycle models? **(5)**

Q6 (a) Compare and contrast object-oriented analysis with the conventional approach of structured analysis during the software development process. **(5)**
(b) Make a class diagram for the student schema in University automation system. Give class representation along with attribute type and visibility classifiers. **(5)**

Q7 Explain all UML diagram in brief. Take an example of Hospital Management System or University Automation System and draw UML diagrams for the case study in brief. Just make one UML diagram for each type. **(10)**

Q8 (a) How the test cases are derived from Use-Case? Explain five step process in detail. **(5)**
(b) Consider a Use-Case diagram of "Login" in to the system. Generate test cases for it. **(5)**

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END TERM EXAMINATION

FIFTH SEMESTER [B.TECH(CSE/IT)] NOVEMBER-DECEMBER 2018

Paper Code: IT-309	Subject: Object Oriented Software Engineering
Time: 3 Hours	Maximum Marks: 75

Note: Attempt five questions in all including Q.no.1 which is compulsory.

Q1 Answer following in brief: **(Any Five)** **(5x5=25)**

(a) What is object orientation. How the objects & classes are identified in an object model?
(b) Write a note on inheritance & polymorphism.
(c) How object oriented system developments is carried out? Explain its phases.
(d) Differentiate between Association, Aggregation, Composition, Abstraction, Generalization, and Realization relationship. Differentiate between links and associations
(e) In UML class diagrams, what are Boundary Classes, Control Classes, and Entity Classes? Explain using suitable diagram.
(f) What is behavioral modeling? How constraints are handled in behavioral modeling?
(g) What is multiple inheritance. How it can it be shown using generalization?

Q2 **(6+6.5=12.5)**

(a) Enlist various building blocks of UML. What are the goals of UML? Discuss the advantages of using UML? In what sense UML is unified?

(b) Discuss different views supported by UML diagrams and explain the significance of Packages? Prepare an object and state transition diagrams for priority queues or heaps storing numbers, where in the operations of the shift up and shift down are possible.

Q3 **(6+6.5=12.5)**

(a) Write a note on Object Oriented Analysis. Briefly write the characteristics of Booch Method, the Coad and Yourdan method, Jacobson method and Raumbaugh method.

(b) Write a note on Object Oriented Design. Discuss the importance of system design? What are activities and actions in dynamic model?

Q4 **(6+6.5=12.5)**

(a) How the classes are identified in an object model? What is its significance? Draw a class diagram of the class student. Make necessary assumptions but clearly state them all. Clearly mark private, public and protected members.

(b) Explain the significance of object diagrams. What are the essential characteristics of object diagram? Create an object diagram for an employee by making some assumptions.

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IT-309

Q5 **(6+6.5=12.5)**

(a) What are abstract classes? How it is different from a normal class? What is their significance? What are static functions?

(b) What are components of use case model? Create a use case model for library management system. Explain 'Extends' relationship with suitable example.

Q6 **(6+6.5=12.5)**

(a) Describe the components of activity diagram. Draw a sequence diagram for a successful login into a system by a user. Describe the components of sequence diagram.

(b) Describe the components and uses of interaction diagrams.

Q7 **(6+6.5=12.5)**

(a) 'State diagrams depict the life cycle of an object' comment. Explain the need for deployment diagrams with suitable examples. What are collaboration diagrams?

(b) What are Components? How Components are organized? Explain the usage of component diagrams with suitable examples.

Q8 **(6.5+6=12.5)**

(a) Differentiate between testing and debugging? Explain the Testing Life Cycle. Write a note on Object Oriented testing strategies?

(b) Write a note on following testing in brief
- Black Box and White Box Testing
- Alpha and Beta Testing
- Stress Testing
- Regression Testing
- Performance Testing
- Acceptance Testing

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IT-309

(Please write your Exam Roll No.) Exam Roll No. .....

END TERM EXAMINATION

FIFTH SEMESTER [B.TECH./M.TECH.] DECEMBER-2012

Paper Code: IT309 **Subject: Object Oriented Software Engineering**

Time : 3 Hours **Maximum Marks :60**

Note: Attempt five questions including Q.no.1 which is compulsory. Select one question from each unit.

Q.1.Answer the following questions: (10*2)

a) Software Reuse

b) what is the use of Design Model ?

c)Define role of Actors.

d)What is Containment Hierarchy?

e)Define Traceability.

f)Discuss importance of Testing in OOSE.

g) Define Block

h) Give advantages of UML.

i) What is verification and validation ?

j) What is coupling ?

UNIT I

Q 2) a)Differentiate between method, process and architecture. (5)

b) " Object oriented analysis uses the object oriented techniques ". Justify the statement. (5)

OR

Q 3) a) What is Delta Requirement Specifications. (3)

b) What are the various activities involved in a system software development? (7)

UNIT II

Q 4) a)What is the purpose of Extension and Inclusion association between Use Cases? Explain with the help of an example. (5)

b) Explain various dimensions of an Analysis Model. (5)

OR

Q 5)a) Construct an requirement model for Opening an Bank account. (5)

b) What is the difference between Use case model and Domain Object model ? (5)

UNIT III

Q 6) Consider the Railway Reservation System and conduct OOA using analysis model and do the following tasks:
(i) Identify the use-cases and model them.
(ii) Identify classes with properties.
(iii) Identify the objects and draw sequence diagrams. (6)

b) What are Interaction diagrams ? Explain with an example. (4)

OR

Q 7) a)What are the building blocks of UML? Discuss with an example. (4)

b) Define the following terms with examples : Association, Generalization and aggregation (6)

UNIT IV

Q 8) Explain any two of the following: (5*2)

a)Various Testing Techniques used in Object Oriented Systems

b)State Based Testing

c)Testing Process

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END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2013

Paper Code: IT-309

Subject: Object Oriented Software Engineering

Time: 3 Hours

Maximum Marks: 60

Note: Attempt any five questions, including Q.no.1 is compulsory. Select One question from each Unit.

Q1. Answer the following questions:- (10x2=20)

(a) Walk Through.
(b) Reusability.
(c) Cohesion.
(d) Discuss advantages of incremental model.
(e) What is the need of SRS?
(f) What is an abstract class?
(g) What is the difference between scenario and use case?
(h) What is polymorphism testing?
(i) When should we choose an object oriented database?
(j) How do we identify the Actor's in a particular system?

UNIT-I

Q2 (a) What are different standards for developing life cycle models? (7)
(b) Is there ever a case when the generic phases of software engineering process do not apply? If so, describe it. (3)

OR

Q3 (a) Describe the activities involved in requirement elicitation in detail. (8)
(b) Distinguish between functional and non-functional requirements. (2)

UNIT-II

Q4 Discuss the issues related to managing the analysis in a multi-team development project. (10)

OR

Q5 (a) Explain how OOA model is translated to OOD model. (5)
(b) What are the main features of Test Model? (5)

UNIT-III

Q6 (a) How is use case related to a system? (5)
(b) What are building blocks of UML? Discuss with an example. (5)

OR

Q7 Develop a complete use case for using your debit card for a meal at restaurant. (10)

UNIT-IV

Q8 Explain any two of the following:- (2x5=10)
(a) Various Testing Activities.
(b) System Testing.
(c) Object Oriented Component Testing.

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END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2015-JANUARY 2016

Paper Code: IT-309

Subject: Object Oriented Software Engineering

Time: 3 Hours

Maximum Marks: 60

Note: Attempt any five questions including Q.no.1 which is compulsory.

Q1 Write short note on the followings **(any four)**: **(4x5=20)**

(a) Unit testing
(b) Entity class, interface class and control class.
(c) Discuss the V model of testing.
(d) Dimensions of Analysis Model.
(e) Software measurements and software metrics.
(f) Defects density and Defect removal.

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(b) What are the drawbacks of waterfall model? How they are overcome by other SDLC models? Discuss in brief. **(5)**

Q3 (a) What are the various methods for requirement elicitation? List all of them and explain any one in detail. **(5)**

(b) SRS document is created after the requirement elicitation. List various characteristics of good SRS design. **(5)**

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(b) Draw a neat USE-CASE diagram for ATM cash withdrawal mechanism. Make assumptions if necessary but clearly state them. **(5)**

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(b) What are the various standards commonly followed during software development life cycle models? **(5)**

Q6 (a) Compare and contrast object-oriented analysis with the conventional approach of structured analysis during the software development process. **(5)**

(b) Make a class diagram for the student schema in University automation system. Give class representation along with attribute type and visibility classifiers. **(5)**

Q7 Explain all UML diagram in brief. Take an example of Hospital Management System or University Automation System and draw UML diagrams for the case study in brief. Just make one UML diagram for each type. **(10)**

Q8 (a) How the test cases are derived from Use-Case? Explain five step process in detail. **(5)**

(b) Consider a Use-Case diagram of "Login" in to the system. Generate test cases for it. **(5)**

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END TERM EXAMINATION

FIFTH SEMESTER [B.TECH/M.TECH] DECEMBER 2016 JANUARY 2017

Paper Code: IT-309

Subject: Object Oriented Software Engineering

Time : 3 Hours

Maximum Marks :60

Note: Attempt all questions as directed. Internal choice is indicated.

Q1 Answer the following questions: **(10x2=20)**

(a) Why is analysis required for a difficult task?
(b) What are the challenges in designing with inheritance?
(c) What is Random Testing?
(d) What is Guard Condition?
(e) Give examples of Composition and Aggregation.
(f) What are the difference between pattern and framework?
(g) What are Identifying Actors?
(h) What are objects in Analysis and Process?
(i) Differentiate between method and Process.
(j) What are the limitations of state transition table?

Unit-I

Q2 (a) What are the software engineering development activities? Briefly explain each of activities in detail. **(8)**

(b) Differentiate between ISO 9001 and SEI – CMM quality standards. **(2)**

OR

Q3 What is the need of requirement elicitation? What are the Techniques for requirements elicitation? **(10)**

Unit-II

Q4 (a) Draw a Requirement model for online hotel reservation. **(5)**

(b) Differentiate between different types analysis objects for a University Examination System. **(5)**

OR

Q5 (a) What is Analysis Model? For a hospital System make Analysis Model and Design Model. **(5)**

(b) Draw a use case diagram for the admission process in a college where management decides whether to grant admission to a student or not. **(5)**

Unit-III

Q6 (a) What are structural and behavioral things in UML? Explain **(5)**

(b) A publisher publishes different books. An author can write different books but for the same publisher. A contract is signed between the publisher and the author. Reports such as the number of books sold, number of complimentary copies given, Royalty amount to be paid to the author etc. are generated from the system.

Draw a class diagram and an object diagram for the above case. **(5)**

OR

Q7 Discuss the activities performed during the design phase. Explain with the help of an example. **(10)**

Unit-IV

Q8 Write short notes on **any two**: **(5x2=10)**

(a) Fault Based Testing
(b) Object Modeling Techniques
(c) Testing process

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