

Enrollment No.....



**Faculty of Engineering**  
**End Sem (Even) Examination May-2019**  
**CS3CO15 / IT3CO14 Object Oriented Analysis and Design**

Programme: B.Tech.

Branch/Specialisation: CSE / IT

**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Which among these are the rules to be considered to form Class diagrams? **1**
- (a) Class symbols must have at least a name compartment  
 (b) Compartment can be in random order  
 (c) Attributes and operations can be listed at any suitable place  
 (d) None of these
- ii. The characteristics of object that distinguish it from all other kinds of objects **1**
- (a) Abstraction (b) Aggregation  
 (c) Modularity (d) None of these
- iii. What is it called where child class get killed if parent class is killed? **1**
- (a) Aggregation (b) Composition  
 (c) Encapsulation (d) Association
- iv. Composition is a Stronger form of which of the following? **1**
- (a) Aggregation (b) Inheritance  
 (c) Multiplicity (d) Encapsulation
- v. Kind of diagrams which are used to show interactions between series of messages are classified as **1**
- (a) Activity diagrams (b) State chart diagrams  
 (c) Collaboration diagrams (d) Object lifeline diagrams
- vi. The interface is represented in UML Notation by **1**
- (a) Circle with name below the circle  
 (b) Dotted eclipse with the name inside eclipse  
 (c) Rectangle box with name of interface inside it  
 (d) Dotted circle with the name inside it

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- vii. Which diagram is NOT commonly used for illustrating use cases? **1**  
 (a) System sequence diagram (b) Activity diagram  
 (c) Use case diagram (d) Collaboration diagram
- viii. Which diagram in UML is used to describe the physical components their distribution and association? **1**  
 (a) Component diagram (b) Object diagram  
 (c) Deployment diagram (d) Interaction diagram
- ix. Which of the following is one of the steps in the integration testing of OO software? **1**  
 (a) Cluster testing (b) Thread-based testing  
 (c) Use-based testing (d) None of these
- x. Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software? **1**  
 (a) Conventional testing (b) OO system validation testing  
 (c) Test case design (d) Both (a) and (b)
- Q.2 i. Explain characteristics of objects with suitable example. **2**  
 ii. How do you develop an object oriented system development life cycle? Discuss all the methods related to object oriented development? **3**  
 iii. Explain structure of complex system with example. **5**  
 OR iv. What do you mean by RUP? Explain with its phases. **5**
- Q.3 i. Write short not on:- **4**  
 (a) Object diagram (b) Association class  
 ii. What are the different kinds of relationships between classes? Discuss each relationship with an example. **6**  
 OR iii. What is the purpose of use case diagram? Draw use case diagram for railway reservation system? **6**
- Q.4 i. Explain the term state, transition, event and guard condition with respect to state transition diagram? **4**  
 ii. Define interaction diagram? Differentiate between sequence diagram and collaboration diagram? **6**  
 OR iii. Define activity diagram? Draw activity diagram to inform a person when a loan is due? **6**

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- Q.5 i. What is patterns? Also explain types of patterns. **4**  
 ii. Explain about the component and deployment diagram with example. **6**  
 OR iii. What is a package diagram in UML with example? Also define dependencies in packages. **6**
- Q.6 i. What is SQA? Discuss about the activities of SQA. **4**  
 ii. What is integrated testing? Discuss about various integrated testing strategy. **6**  
 OR iii. Explain about software testing strategies. What are the different types of system testing? **6**

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## Marking Scheme

### CS3CO15 / IT3CO14 Object Oriented Analysis and Design

Q.1	i.	Which among these are the rules to be considered to form Class diagrams?	1
	(a)	Class symbols must have at least a name compartment	
	ii.	The characteristics of object that distinguish it from all other kinds of objects	1
	(a)	Abstraction	
	iii.	What is it called where child class get killed if parent class is killed?	1
	(b)	Composition	
	iv.	Composition is a Stronger form of which of the following?	1
	(a)	Aggregation	
	v.	Kind of diagrams which are used to show interactions between series of messages are classified as	1
	(c)	Collaboration diagrams	
	vi.	The interface is represented in UML Notation by	1
	(a)	Circle with name below the circle	
	vii.	Which diagram is NOT commonly used for illustrating use cases?	1
	(d)	Collaboration diagram	
	viii.	Which diagram in UML is used to describe the physical components their distribution and association?	1
	(c)	Deployment diagram	
	ix.	Which of the following is one of the steps in the integration testing of OO software?	1
	(a)	Cluster testing	
	x.	Which of the following is black-box oriented and can be accomplished by applying the same black-box methods discussed for conventional software?	1
	(d)	Both (a) and (b)	
Q.2	i.	Characteristics of objects	1 mark
		Example.	1 mark
	ii.	Develop an object oriented system development life cycle	3
		1 mark	
		All the methods related to object oriented development	2 marks
	iii.	Structure of complex system	2 marks
		Example.	3 marks
	OR iv.	RUP	1 mark

		Its phases	4 marks	
Q.3	i.	Write short not on-:		4
	(a)	Object diagram	2 marks	
	(b)	Association class	2 marks	
	ii.	Kinds of relationships between classes	3 marks	6
OR		Each relationship with an example	3 marks	
	iii.	Purpose of use case diagram	3 marks	6
		Use case diagram for railway reservation system	3 marks	
Q.4	i.	State, transition, event and guard condition with respect to state transition diagram		4
		1 mark for each	(1 mark * 4)	
	ii.	Interaction diagram	2 marks	6
		Differences b/w sequence diagram and collaboration diagram	4 marks	
OR	iii.	Activity diagram	2 marks	6
		Activity diagram to inform a person when a loan is due	4 marks	
Q.5	i.	Patterns	2 marks	4
		Types of patterns.	2 marks	
	ii.	Component diagram with example	3 marks	6
		Deployment diagram with example.	3 marks	
OR	iii.	Package diagram in UML with example	3 marks	6
		Dependencies in packages.	3 marks	
Q.6	i.	SQA	2 marks	4
		Activities of SQA	2 marks	
	ii.	Integrated testing	2 marks	6
		Integrated testing strategy	4 marks	
OR	iii.	Software testing strategies	2 marks	6
		Types of system testing	4 marks	

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