

R13

Set No. 1

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018 UML AND DESIGN PATTERNS

(Common to Computer Science and Engineering and Information Technology)
Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B *****

1.	a)	Write the benefits of iterative development.	[4]
	b)	Write the scope of the use case model.	[3]
	c)	List out the advantages of domain modeling	[3]
	d)	Which design pattern addresses the privacy issues?	[4]
	e)	How do you identify states in a state chart diagram?	[4]
	f)	Define association and aggregation among classes.	[4]
		$\underline{\mathbf{PART-B}} \ (3x16 = 48 \ Marks)$	
2.	a)	Discuss various phases in a unified process.	[8]
	b)	Elaborate the goals of a good design.	[8]
3.	a)	Explain different elements in use case diagram with an example.	[8]
	b)	Discuss various elements of supplementary specification.	[8]
4.	a)	Explain the steps of mapping designs to code.	[8]
	b)	Draw the sequence diagram for performing any ATM transaction.	[8]
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5.	a)	What is the intent of facade pattern? And also discuss its applicability?	[8]
	b)	Compare and contrast pure fabrication and indirect fabrication.	[8]
6.	a)	Draw the state chart diagram for railway management system.	[8]
	b)	What are the types of components in UML? Write the differences between	
		component and deployment diagrams.	[8]
7.	a)	Explain in detail the relationships in UML for use case.	[8]
	b)	Write short note on the following	
		(i) Domain model refinements (ii) Conceptual super classes	
		(iii) Association classes.	[8]



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Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B *****

1.	a)	Mention the goals of a good design.	[4]
	b)	What are the three common use case formats?	[3]
	c)	What is a sequence diagram and why it is important?	[3]
	d)	Write the objective of fabrication design pattern.	[4]
	e)	What is the goal of a component diagram?	[4]
	f)	Write the importance of generalization relationship.	[4]
		$\underline{\mathbf{PART-B}} \ (3x16 = 48 \ Marks)$	
2.	a)	Explain the phases of a Unified Process with a neat sketch.	[8]
	b)	Discuss how UML artifacts and SDLC phases can be mapped.	[8]
3.	a)	Write about the elements of supplementary specification.	[8]
	b)	Write the significance of FURPS model.	[8]
4.	a)	Draw and explain the class diagram for online shopping cart	[8]
	b)	Explain the sequence of steps for creating methods from interaction diagrams by taking an example.	[8]
5.	a)	Explain the need of Publish-Subscribe design pattern.	[8]
	b)	Discuss the motivation and applicability of factory design pattern with an	101
		example.	[8]
6.	a)	Elaborate the need of fork and join in an activity diagram with example.	[8]
	b)	Draw and explain the sequence diagram for banking management system.	[8]
7.	a)	Explain in detail about the dependency relationships in use case along with	[8]
		rotations by taking a suitable example.	
	b)	Write short note on the following	
		(i) Conceptual classes (ii) Abstract conceptual classes.	[8]



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Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B *****

1.	a)	Write the typical activities in OOAD.	[4]
	b)	Write the purpose of Inception phase.	[3]
	c)	Write the differences between sequence and collaboration diagrams.	[3]
	d)	Write the significance of indirection design pattern.	[4]
	e)	List out the differences between class and object diagrams.	[4]
	f)	Define aggregation and composition.	[4]
		PART-B (3x16 = 48 Marks)	
2.	a)	Explain the role of OOAD and UML in project development.	[8]
	b)	Discuss various goals for a good design.	[8]
3.	a)	Explain how the requirements are organized in UP artifacts.	[8]
	b)	Discuss about the three types of use cases with examples.	[8]
4.	a)	Write about different strategies to find the conceptual classes.	[8]
	b)	Draw the sequence diagram for hospital management system.	[8]
5.	a)	Explain how singleton helps in communication.	[8]
	b)	Write about principles, control indication and relative pattern of fabrication in	
		detail.	[8]
6.	a)	Discuss the artifacts to be identified for drawing component diagram.	[8]
	b)	Draw a state chart diagram for airline management system.	[8]
7.	a)	Explain the architecture of a domain model with a neat sketch.	[8]
	b)	Discuss about aggregation and composition relationships in detail.	[8]



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Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B Answer ALL sub questions from Part-A Answer any THREE questions from Part-B *****

1.	a)b)c)d)e)f)	What are the different types of workflows in OOAD? Write about the different categories of requirements in UP. Write the importance of elaboration. List out the objectives of factory pattern. Define events, states and transitions. When to create conceptual subclass and conceptual super class?	[4] [3] [3] [4] [4] [4]
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2.	a)	PART-B (3x16 = 48 Marks) Flobounts MVC analytic styre with an Everynle	го л
۷.	a)	Elaborate MVC architecture with an Example.	[8]
	b)	Discuss about the steps to select a design pattern.	[8]
3.	a)	Explain the elements and sections of a use case diagram.	[8]
٥.	b)	Draw a use case diagram for library management system.	[8]
	0)	Draw a use case diagram for norary management system.	[~]
4.	a)	Discuss about the importance of GRASP design patterns.	[8]
	b)	Explain how to create a domain model with an example.	[8]
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5.	a)	Write the significance of indirection pattern with an example.	[8]
	b)	Explain about structure, implementation and design issues of facade design	
		pattern.	[8]
6.	a)	Explain the uses and basic elements of a deployment diagram with neat diagram.	[8]
	b)	Discuss about various common modeling techniques for component diagram.	[8]
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7.	a)	Explain how generalization is used in use case model with an example.	[8]
	b)	Write the significance of association classes. What are the guidelines to add	101
		association class?	[8]