Code: 9A05801

1

B. Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

DESIGN PATTERNS

(Common to CSE, IT & CSSE)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Distinguish between iterator and list iterator.
(b) Draw an interaction diagram that performs withdrawal operation.
(c) What arithmetic's are supported by point? Explain them in detail.

2 (a) List and explain the reusable object oriented design aspects of a pattern.
(b) How do we describe design patterns? Explain in detail.

3 (a) What distinguishes pull-down menus from that of glyphs?
(b) Write a detailed note on abstracting of object creation.
(c) Explain the traversal actions in detail.

4 (a) What issues to be considered while designing a factory method? Explain the consequence of the factory pattern.
(b) Who are the different participants involved in the builder pattern. What relation exists between them? Explain it in detail.

5 (a) Explain the role of structural patterns in designing of pattern.
(b) Draw and explain the multiple inheritance interface that illustrates relation between different participants in the adapter pattern.

6 (a) What is the role of interpreter in design of a pattern?
(b) List and explain the various participants involved in design of the interpreter.
(c) List the features that a proxy pattern exploits.

7 (a) Give brief description about the iterator design pattern.
(b) What is the motivation for mediator pattern? Explain it in detail.

8 Explain the following:
(a) Participants of template method.
(b) Benefits and drawbacks of strategy pattern.
(c) Decoupling sender and receiver.

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2

B. Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

DESIGN PATTERNS

(Common to CSE, IT & CSSE)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

*****

1 (a) How can we add and remove the items from list? Explain with a suitable example.
(b) What is an iterator? Explain the various operations that an iterator supports. Explain them in detail.
(c) What is the use of object diagram in modeling? Explain.

2 (a) Discuss in detail about the object interfaces and object implementations.
(b) Distinguish between inheritance versus parameterized types.
(c) Give brief description about the frameworks.

3 (a) Explain the role of formatting in creation of a document editor.
(b) How can we configure windows and windoimps? Explain in detail.

4 (a) What are the liabilities and techniques for implementing the abstract factory pattern? Explain them.
(b) Draw and explain the interaction diagram that illustrates the cooperation between a builder and director.
(c) Who are the participants in factory method? Explain them.

5 (a) What is the motivation for bridge pattern? Explain in detail.
(b) Explain the consequences and implementation issues of a composite pattern.

6 (a) Give brief description about the implementation issues and consequences of chain of responsibility.
(b) Write a detailed note on collaborations, consequences and applicability of command pattern.

7 (a) Describe in detail about the mediator design pattern.
(b) Explain the applicability, structure and participants of iterator pattern.

8 Write short notes on the following:
(a) Documentation and learning aid.
(b) Consequences of template method.
(c) Applicability and Participants of strategy pattern.

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3

B. Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

DESIGN PATTERNS

(Common to CSE, IT & CSSE)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

*****

1 (a) What is an object diagram? Explain its role in design of a system.
(b) Define a class diagram. Explain the various OMT notations of it.
(c) List the different functions used to access the list.

2 (a) Explain the common causes for redesign a design pattern.
(b) What are the different criteria that selects the right pattern for a given problem?

3 (a) How can we embellish the user interface? Explain with a suitable example.
(b) Explain in detail about the factories and product classes.

4 (a) Explain the role of creational patterns in design of the patterns.
(b) What is the motivation for builder creation pattern? Explain it in detail.
(c) Draw and explain the structure of factory method.

5 (a) What relation exists between the different participants involved in composite pattern? Explain it in detail.
(b) List the different issues that should be considered while using the adapter pattern.

6 (a) Discuss in detail about the façade design pattern.
(b) Explain the applicability, structure and participants of flyweight pattern.

7 (a) What is the motivation for observer pattern? Explain it in detail.
(b) Draw and explain the interaction diagram that illustrates how the objects cooperate to handle a change in list box selection.
(c) Explain the structure of iterator pattern.

8 (a) Present a detailed note on visitor design pattern.
(b) Write short notes on target for refactoring.

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Code: 9A05801

4

B. Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

DESIGN PATTERNS

(Common to CSE, IT & CSSE)

Time: 3 hours Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

*****

1 (a) Distinguish between abstract class and concrete class.
(b) Explain the role of interaction diagrams in design patterns.
(c) Describe the various constructors used in list.

2 (a) Explain the step - by - step approach for selecting the design pattern.
(b) What are the differences between class and interface inheritance?
(c) Explain the compile time structure of a object oriented program.

3 (a) Describe in detail about the various problems associated with Lexi's design.
(b) Explain in detail about the encapsulating the analysis.
(c) Give brief description about the command history.

4 (a) What is the relationship between different participants present in prototype pattern?
(b) Explain the implementation issues and benefits of singleton pattern.

5 (a) Explain when to use the bridge design pattern.
(b) What are the different issues to be considered while applying the decorator pattern?
(c) Draw and explain the structure of composite pattern.

6 (a) Discuss in detail about the proxy design pattern.
(b) Explain the role of behavioral patterns in design of the patterns.

7 (a) What is the key idea of state pattern? Explain it in detail.
(b) Explain the object structure of a mediator pattern.
(c) Explain the implementation variants of iterator pattern.

8 (a) Give brief description about the strategy design pattern.
(b) Explain the role of template method in designing of the patterns.

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