

Code: 1G182*IV B.Tech. II Semester Advanced Supplementary Examinations June 2016***Design Patterns**

(Computer Science and Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five questions

All Questions carry equal marks (14 Marks each)

1. a) What is the consistent format that is used to describe the design pattern?
Explain with example. 9M
- b) Describe the different approaches to find the solution for a particular design pattern. 5M
2. a) Design a CreditCard class, which offers the functionality to validate credit card numbers. Design the card validation method to internally use a private method to check if the card number has valid characters. 10M
- b) What is a race condition? Give example. 4M
3. a) Describe the role of builder pattern in design. 7M
- b) Which class provides an interface to produce a family of objects? Describe it in detail. 7M
4. a) List the advantages of using the composite pattern. 5M
- b) List and explain the enumeration methods present in java.util package 5M
- c) Define intrinsic and extrinsic information. Give examples for each one. 4M
5. a) How can we attach additional responsibilities to an object dynamically? Explain it in detail. 7M
- b) Explain the role of chain of responsibility pattern in design of a particular pattern. 7M
6. a) Describe the point to point communication and mediator as communication hub techniques. 7M
- b) Write an algorithm to convert an infix expression into postfix form. Explain the same with suitable example. 7M
7. a) Which design patterns lets you redefine certain steps of an algorithm without changing the algorithm's structure. Explain its consequences and participants. 7M
- b) Write short notes on common attribute registry. 7M
8. a) Describe the critical section problem with respect to java. 7M
- b) What is meant by locking? Why we need to lock the transactions? Explain with example. 7M

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Code: 1G187

IV B.Tech. II Semester Advanced Supplementary Examinations June 2016

Software Testing Methodologies

(Computer Science & Engineering)

Max. Marks: 70

Time: 3 Hours

Answer any five questions

All Questions carry equal marks (14 Marks each)

1. a) Discuss about different types of bugs that can cause State graphs? 7M
b) Explain about various Dichotomies? 7M
2. a) Write about path sensitizing & path Instrumentation? 6M
b) Write about Data Flow Testing and its Applications? 8M
3. a) Differentiate between nice Domain and ugly domains? 7M
b) Write about Interface Testing? 7M
4. a) Discuss in detail about Testability of domains? 7M
b) Explain Regular Expressions with example. 7M
5. What is meant by Loop? State and explain various kinds of Loops with suitable Examples? Also discuss how to select optimal paths for $C_1 + C_2$ (Statement coverage + Branch coverage) 14M
6. a) How can a Node Reduction optimizations are done & Explain in detail. 7M
b) Write relative metrics and demerits of different Graph Matrix Representations? 7M
7. a) Write short notes on
 i) Equivalence State
 ii) Unreachable State
 iii) State Table 6M
b) What are the various approaches for correction of good software? Discuss them Clearly. 8M
8. a) State and explain various Transactions flow functions and mergers. 7M
b) Explain about Inspections, Reviews and Walkthroughs? 7M
