**IS801**

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M S RAMAIAH INSTITUTE OF TECHNOLOGY

(AUTONOMOUS INSTITUTE, AFFILIATED TO VTU)

BANGALORE - 560 054

SEMESTER END EXAMINATIONS - MAY / JUNE 2014**Course & Branch : B.E. - INFORMATION SCIENCE & ENGG.****Semester : VIII****Subject : Software Design Patterns****Max. Marks : 100****Subject Code : IS801****Duration : 3 Hrs****Instructions to the Candidates:**

- Answer one full question from each unit.

UNIT - I

1. a) What are the problems of requirements and how does functional decomposition deal with them? (10)
b) Define Cohesion and Coupling. With sample code describe the problems of weak cohesion and tight coupling. (10)
2. a) Mention and briefly explain three different perspectives in the software development process as expressed by Martin Fowler. (10)
b) Do we really spend more time fixing bugs? Justify your answer. (10)

UNIT - II

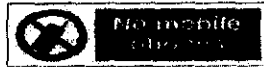
3. a) Explain the Adapter pattern with its key features and sample code (10)
b) "Is Quality Objective?" Comment on this statement. (10)
4. a) Explain the Bridge pattern with its key features and sample code (10)
b) With sample codes explain when is it more appropriate to use the Facade pattern rather than the Adapter pattern. (10)

UNIT - III

5. a) Explain the Decorator pattern with its key features and sample code (10)
b) What are two approaches to identifying commonalities and variabilities? (10)
6. a) Explain the Abstract Factory pattern with its key features and sample code (10)
b) What are Alexander's five steps to design? Can they be replicated in software design? (10)

UNIT - IV

7. a) Explain the Template pattern with its key features and sample code (10)
b) Can patterns help handle variation more efficiently? Justify with an example (10)
8. a) Explain the Singleton pattern with its key features and sample code (10)
b) Describe any five possible problems in using software design patterns? (10)



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UNIT - V

9. a) Briefly describe the activities involved in designing Architecture. (10)
b) What are the three common software architecture structures? Explain each of them briefly. (10)
10. a) Mention and explain the four factors which influence Architecture choices? (10)
b) What are the three fundamental reasons for the importance of software architecture? Explain with suitable examples. (10)
