2007 PUNE UNIVERSITY

B.E/B.TECH DEGREE EXAMINATIONS
COMPUTER SCIENCE ENGINEERING
SOFTWARE ARCHITECTURE

TIME: 3 HOUR
MARK: 80

Answer Any Five Question
All Question Carry Equal Mark

MARK [16*5=80]

Q1 a)A software architect is responsible for quality of a software product, comment.

b)Comment on the statement that every computing system with software has a software architecture.

c)Explain what does one mean by the statement that software product lines share a common architecture.

OR

Q2 a)Why is project oriented approach superior to procedural approach,and when does a software architect take a decision in favor of OO based system to build a software system.

b)Consider a library system where a student can renew books from HOME by logging into the college website which is hosting the library application.The system architect decides to use a browser based system to access the website over the internet.Which diagram can be used by software architect to capture this important architectural decision, illustrate.

c)Write short notes on analyzing and evaluating software architecture.

Q3 a)Explain how achieving a quality attribute like usability depends upon both big picture(architecture)as well as on details(implementation, on architectural aspects)

b)What is testability, give a possible test scenario for a unit tester say testing a UNIT of the software “SEARCH a BOOK” in the library system,make suitable assumptions and give us a test scenario showing source,possible response and possible response measure for testability in the specific case.

OR

Q4 a)In an SRS one can document nonfunctional requirements like portability.What do you understand by portability,give one or two strategies an Architect may use to acieve portability.

b)What is business quality,time to market.

c)Discuss how active redundancy can help fault recovery.

d)What is latency w.r.t. performance of a system.

Q5 a)For the design pattern Pipes and Filter, give the following

i)Motivation/Problem

ii)Solution that is the actual pattern

iii)Example from UNIX.

iv)Advantages and disadvantages.

b)What are design patterns,why do we need them,give an example design pattern.

OR

Q6 a)Write short notes on design pattern: Factory Pattern.

b)Which design pattern will you choose to “Convert the interface of a class into another interface clients expect.”Why.

c)Give sample C++ code for showing how an iterator pattern is used.

Q7 a)Which Java technology will you choose to connect to different data sources uniformly.

b)Session enterprise beans will be choosen to represent your data in memory like say customer,product,Agree or disagree,please explain your answer.

c)What is the need for technology like JAVA RMI for software development.

OR

Q 8 a)Compare and contrast EJB 2.0 and EJB 3.0

b)Write short notes on JAX-WS.

c)Give a sample code for setting up a JDBC connection.

Q9 a)Identify some of the challenges and issues in web based clients design.

b)Explain concepts through simple examples for the following terms in Web based systems:

i)XML ii)JSP tags iii)Web server iv)URL

OR

Q 10a)Discuss the HTTP protocol in brief.

b)Discuss the JSF technology’s applications in brief.

c)What are active X controls.

Q11 a)What are NET assemblies and what metadata do they use.

b)Compare components and web services.

c)Write short notes on .NET as a computing platform.

OR

Q12 a)How does one create COM components in C++,give example code.

b)Write short notes on Interfaces.

c)What are windows DLL’s and how are they different from COM DLLs.