SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No.: ☐☐☐☐☐☐☐☐☐☐☐☐

Total number of pages:[2]

Total number of questions:08

M.Tech|| CSE ||

Advance Software Engineering

Subject Code:CS-501

Paper ID: (for office use)

Batch: 2004 onwards/2011onwards/2015 onwards[Tick Relevant]

Time allowed: 3 Hrs

Max Marks:100

Important Instructions:
- Attempt any five questions
- All questions carry equal marks

Q. 1.   a) What is meant by formal requirements specification? How is it better than non-formal requirements specifications?   (10)

b) Explain various principles that guide a good software design.   (10)

Q. 2.   a) Compare and contrast the quality process of SEI CMM and ISO 9001.   (10)

b) Explain how Six Sigma approach is applicable to software quality. Discuss with the help of suitable example.   (10)

Q. 3.   Explain the following:

a) Clean Room Technique   (10)

b) Software Maintenance   (10)

Q. 4.   a) Explain how best features of Waterfall model and Prototyping are included in Spiral model for software development.   (10)

b) There is a cultural change in case of Agile development from Life cycle models. Explain various positive and negative features of Agile Development.   (10)

Q. 5.   a) What types of errors are detected during integration testing? Explain various strategies for integration testing.   (10)

b) Consider the problem of computing a value of a polynomial of the third order:

$$a0 + a1\ x + a2x^2 + a3x^3$$

What is the number of test cases one should develop for exhaustive testing assuming

that one uses 32 bits to represent real number coefficients? Assuming that each test case uses up to 7 sec. How much time is needed to perform this testing? (10)

Q. 6.   Define:

(5 each)

a) Structured chart

b) Traceability of design

c) Data Dictionary

d) Coupling and cohesion

Q. 7.   a) What problems would you face if you were developing several versions of the same product according to a client's request, and you were not using any configuration management tools? (10)

b) What are the different types of projects defined for estimation of cost using COCOMO. (10)

Q. 8.   Why are legacy softwares are difficult to maintain? Explain the reverse engineering and re-engineering process for maintenance of software.