

Exam. Code: 0916
Sub. Code: 33432

2015
B.E. (Computer Science and Engineering)
Fourth Semester
CS-404: Software Engineering

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 7 (Section-C) which is compulsory and selecting two questions each from Section A-B.

x-x-x

SECTION-A

- 1)
 - a) Define software engineering. What are its various challenges? Explain the evolving role of Software. (5, 5)
 - b) Name three main methodologies for object oriented analysis and design. (5, 5)
- 2) What is a software process model? Name three generic software process models and explain an advantage and a disadvantage for each of them. What activity was added in the spiral model that was not present in the waterfall model? (10)
- 3) Explain the following:
 - a) Tools for structured analysis and design
 - b) Characteristics of a good SRS (5, 5)

SECTION-B

- 4)
 - a) Enumerate the software metrics for software quality. Give examples.
 - b) Explain various steps in software cost estimation procedure using COCOMO. An internet start-up company plans to use COCOMO to estimate cost of development of their planned Java-based web tools. What advice would you give them about the appropriateness and accuracy of COCOMO for these projects? (5, 5)
- 5) What is the difference between software verification and software validation? Discuss the following Software Testing Techniques:
 - a) Integration Testing
 - b) Alpha Testing
 - c) Beta Testing. (10)
- 6)
 - a) What are CASE tools? Briefly explain the characteristics of successful CASE tools. Draw and explain the positioning of CASE tools in software application development.
 - b) Explain UML, its use and major elements with examples. (5, 5)

SECTION-C (Compulsory Question)

- 7)
 - a) Do you think Software Engineering is a true "Engineering" discipline? Why or Why not?
 - b) What is SEI Capability Maturity Model?
 - c) What is meant by coupling in software design? Explain different types of coupling.
 - d) Explain the role of a software project manager.
 - e) What is meant by software scope in software project planning? Why is it very important to have a software scope that is understandable, unambiguous and bounded? (5x2=10)

x-x-x