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## Paper ID [CS501]

(Please fill this Paper ID in OMR Sheet)

M.Tech. (Sem. - 1<sup>st</sup>)

ADVANCE SOFTWARE ENGINEERING (CS - 501)

Time : 03 Hours

Maximum Marks : 100

Instruction to Candidates:

- 1) Attempt any **Five** questions.
- 2) **All** questions carry equal marks.

MAY 2008

**Q1)** What are the essential characteristics of software engineering? How it is different from other engineering discipline such as house building and bridge design etc. Explain in detail the various phases in a software development project.

**Q2)** (a) List and discuss the major quality requirements of a Software Requirement Specification (SRS) document.

(b) What are the major uses of a requirement specification document? In what ways these uses affect the style and content of a requirement document.

**Q3)** (a) Name the widely used software design methods and give a detailed sketch of data flow design method.

(b) Explain the notion of coupling and cohesion in the context of structured design.

**Q4)** (a) Define the term object oriented modeling. In this context, what does UML provide to designers? What it doesn't provide. Discuss, what might the object modeling look like today if UML had not been developed.

(b) What is difference between.

(i) UML state diagrams and state transition diagrams.

(ii) Sequence and collaboration diagrams.

Q5) (a) What do you mean by formal requirements specifications? Why it is necessary to still test your software if formal methods have been used throughout its development?

(b) Explain in detail the process of Client-server Software development.

Q6) Differentiate between the following:

(a) Black box testing and white box testing.

(b) Fault based testing and Error based testing.

(c) Software quality and reliability.

(d) Throwaway prototyping and evolutionary prototyping.

Q7) How software maintenance is different from software development. Explain in detail the various techniques used for software maintenance.

Q8) Write short notes on the following:

(a) Software Reuse.

(b) Maturity levels of CMM.

(c) Clean room Techniques.

(d) User Interface design.

