B.Tech.

SEVENTH SEMESTER EXAMINATION, 2004-2005

SOFTWARE ENGINEERING

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** questions.*

(ii) All questions carry equal marks.

1. Answer ***any four*** questions of the following : **(5x4=20)**

(a) Explain in brief the layered technology approach to Software Engineering.

(b) Compare the Hardware and Software characteristics.

(c) Explain in brief the Software Components.

(d) Explain in brief the role of a system analyst.

(e) What are the various situations where there is a contact between system analyst and programmer.

(f) Write the important characteristics of a Decision support system.

2. Answer *any four* questions of the following : **(5x4=20)**

(a) As we move around the process of flowgraph path of the spiral model, what can we say about the software that is being developed or maintained.

(b) Explain in brief the various types of testing methods for a software.

(c) List the various maturity levels in CMM.

(d) Explain in brief the FURPS quality factors for a software.

(e) Write short notes on coupling.

(f) Differentiate between verification and validation.

3. Answer *any two* questions of the following : **(10x2=20)**

(a) Explain what is software prototyping. Explain the two most popular prototyping approaches-throw-away and evolutionary. List the difference between two approaches.

(b) Write some characteristics of SRS (Software Requirement Specifications) and describe them. List the important issues a SRS must address.

(c) Suppose you want to develop an object oriented system. Which software process model you will use and why ? Explain.

4. Answer *any two* questions of the following : **(10x2=20)**

(a) (i) What are the activities involved in project management ?

(ii) Explain in brief the key elements of software project management.

(b) What is Software Configuration Item (SCI) ? List the various SCIs that become the target or configuration management techniques and form a set of baselines.

(c) Discuss in brief the various metrices for software productivity and quality.

5. Answer *any two* questions of the following : **(10x2=20)**

(a) Explain in brief the structured approach to top-down and bottom-up design.

(b) Which structured analysis tool is used to model the functions ? Explain it with the help of an example.

(c) Compare between functional and object oriented approach towards the system design.

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