

DEPARTMENT OF INFORMATION TECHNOLOGY

NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR

Major Examination
Tech 4th Semester (IT)
Time Allowed: 2 hours

Software Engineering
Maximum Marks: 50
5th July, 2015 (2:30 PM)

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Note: Attempt any four Questions.

Q1:- (a) Explain *software process assessment*. What is its purpose? Also discuss the standards developed for it.

(b) Compare *incremental process model* with *evolutionary process model*.

(c) What is the role of *user participation* and *characteristics of requirements* in the selection of a life cycle model. [4.5, 4.4]

:- (a) Develop complete use case for *placing an order online*.

(b) Draw context diagram and level 1 DFD for supermarket app. Why Data Dictionary is used in analysis modeling?

(c) Requirements should state what a system should do, without stating how it should do it. Why is this distinction useful? [5.5, 2.5]

(a) Discuss various activities of software project planning.

(b) Consider a project with the following parameters.

i. External Inputs:

- 10 with low complexity
- 15 with average complexity
- 17 with high complexity

ii. Number of External outputs: 42

iii. Number of user enquiries: 08

iv. Internal logical files:

- 2 with average complexity
- 1 with high complexity

v. External Interface files:

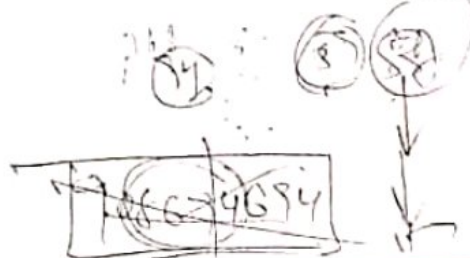
- 9 with low complexity

In addition to above, system requires

- Significant data communication
- Performance is very critical
- Designed code may be moderately reusable

Other complexity adjustment factors are treated as average. Compute Unadjusted and Adjusted function point counts. [6, 6.5]

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- Q4. (a) State the basic differences between
- (i). Control flow-oriented and data flow-oriented design techniques.
 - (ii). Black box testing and White box testing. [2×4]
- (b) Draw the Design Structure Chart to calculate the attendance of students and display the students having attendance shortage. [4.5]
- Q5. (a) What is user acceptance testing? Explain types of user acceptance testing? [4.5]
- (b). Explain the following terms:
- i. Disposable Information System.
 - ii. Debugging By Induction.
 - iii. Delphi Cost Estimation Technique
 - iv. Data flow Architecture [4×2]

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