



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech/(EE-NEW)/SEM-6/EE-604A/2013
2013
SOFTWARE ENGINEERING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$

- i) The chain of activities determines the duration of the project is
- a) duration path
 - b) linearly independent path
 - c) critical path
 - d) none of these.



- ii) To achieve good design which quality a module should have ?
- a) High cohesion low coupling
 - b) High cohesion high coupling
 - c) Low cohesion low coupling
 - d) Low cohesion high coupling.
- iii) Compilers and linkers are
- a) organic software
 - b) semi-detached software
 - c) embedded software
 - d) none of these.
- iv) Activity network is used to
- a) decompose a given task set
 - b) to show different activities, duration, interdependencies
 - c) project monitoring and control
 - d) allocate resources to activities.



- v) If the project size is same then development time is maximum for
- a) organic
 - b) semi-detached
 - c) embedded
 - d) impossible to determine.
- vi) Data processing programs are considered as
- a) utility programs
 - b) application programs
 - c) system programs
 - d) none of these.
- vii) Which of the following estimation is carried out first by a project manager during project planning ?
- a) Estimation of cost
 - b) Estimation of the duration of the project
 - c) Project size estimation
 - d) Estimation of development effort.



viii) Project planning does not include

- a) risk identification b) design
- c) cost estimation d) configuration.

ix) Software failure rate is highest during

- a) design phase
- b) testing phase
- c) implementation phase
- d) installation phase.

x) Which type of risk factor is most likely to cause problems for a software project developing commercial software ?

- a) Inadequate user documentation
- b) Litigation expense
- c) Low productivity
- d) Cancellation of project.



GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following.

3 × 5 = 15

2. Write out the reasons for the failure of Water Fall Model.
Why is Spiral Model called meta model ? 3 + 2
3. What is the difference between the “Known Risks” and
“Predictable Risks” ?
4. What are CASE tools ? How do they aid in Software
Development Life Cycle ? 3 + 2
5. Explain critical path method with suitable example.
6. What are the differences between black box and white box
testing ? “System testing can be considered as a pure black
box test.” Justify or contradict. 3 + 2

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following.

3 × 15 = 45

7. a) What are the basic steps and main assumptions of
COCOMO ?



- b) How can you improve upon the estimates given by basic COCOMO ?
- c) Explain the Delphi cost estimation technique. 5 + 5 + 5
8. a) What is data dictionary ? Explain with an example. Why is it used ?
- b) Differentiate between verification and validation ?
- c) How do you capture system requirements using use case modelling ? Explain with example. 5 + 5 + 5
9. What is cohesion and coupling ? Discuss different kinds of cohesion and coupling. Define decision table and decision tree. Why are they used ? 3 + 6 + 4 + 2
10. a) What are the main features of structured programming ?
- b) What is the significance of documentation in software design ?
- c) Differentiate between logical DFD and physical DFD ?
- d) Draw and explain the DFD for a typical ATM transaction system. 3 + 3 + 3 + 6



11. Write short notes on the following :

5 × 3

- a) Spiral model vis-à-vis Iterative Model
- b) Feasibility study
- c) Beta testing
- d) Software quality assurance
- e) Cyclomatic complexity.

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