

2014

**Software Project Management
and Quality Assurance**

Time Alloted : 3 Hours

Full Marks : 70

*The figure 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:

10x1=10

- i) The four icons used in building DFDs are
 - a) flow, process ,source/destination, store
 - b) flow ,source, store ,process
 - c) flow, process, source, store
 - d) source, process, destination, store
- ii) White Box testing is also known as
 - a) Procedure Testing c) Structural Testing
 - b) Performance Testing d) All the above
- iii) Data Dictionary keeps details of the contents of:
 - a) data flow b) data store
 - c) both the above d) neither of the above
- iv) Which one is not a strategy for design?
 - a) bottom up design b) top down design

- c) embedded design d) hybrid design
- v) Alpha testing is done by
 - a) Programmer b) User
 - c) both (a) and (b) d) none
- vi) A system that does not interact with external environment is called
 - a) Closed system b) logical system
 - c) Open system d) Hierarchical system
- vii) The most important feature of Spiral model is:
 - a) Quality management b) Maintenance
 - c) Risk Assessment d) None of these
- viii) Real time System is :
 - a) Distributing System c) Maintaining System
 - b) Operating System d) Requirement System
- ix) In the analysis and presentation of logic, which of the following techniques will ensure that all the combinations of conditions have been considered?
 - a) HIPO chart b) Decision table
 - c) pseudo code d) DFD
- x) Documentation package includes:
 - a) Flowcharts b) Test brochures
 - c) Cover letters d) All of these

GROUP - B

(Short Answer Type Questions)

Answer any three of the following.

3x5=15

2. What are the advantages and disadvantages of classical waterfall model?
3. Explain Function Point Metric estimation method with example.
4. What are the different features of Formal Technical Review?
5. Explain briefly different software quality management activities.

6. What is cyclomatic number? Explain its significance in software testing.

GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

$3 \times 15 = 45$

7. a) Explain different types of software project teams.
b) What are the qualities of a good software engineer ? [10+5]
8. a) What is LOC? What are the merits and demerits of LOC? [10+5]
b) A large products company, is planning to develop a new computer program to keep track of raw materials. It will be developed by an in-house team of programmers and analysts who have been developing similar programs for several years. An initial study has determined that the size of the program will be roughly 30,000 delivered source instructions. Using the Basic COCOMO model, calculate the effort required, productivity, time to develop and average staffing? [9]

9. a) Consider a project with the following functional units:

Number of user inputs	22
Number of user outputs	14
Number of user inquiries	20
Number of user files	3
Number of external interfaces	2

Assume Complexity Adjustment Factor (CAF) and weighting factors are average. Compute the function points for the project.
[Assume CAF= 1.17]

[7]

- b) What are the essential activities of project planning?

[8]

10. a)

Activity	Preceding activity	Weeks
A	-	13
B	-	12
C	A	2
D	B, C	8
E	A	15
F	D	2

Calculate the Earliest Starting Time(EST), Latest Starting Time (LST), Earliest Finishing Time(EFT), Latest Finishing Time(LFT) for each activity. Also draw the PERT chart and calculate the critical path.

[10]

b) What is Project Scheduling? What is Gantt chart?

[5]

11. Write short notes on (any three)

[3X5]

- a) FTR
- b) ISO
- c) Software Configuration Management
- d) Software Quality
- e) SRS

