Maulana Abul Kalam Azad University of Technology, West Bengal

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : BCA-403

SOFTWARE PROJECT MANAGEMENT AND QUALITY ASSURANCE

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 any *ten* of the following : $10 \times 1 = 10$

   i) Which of the following is *not* project management goal ?

      a) Keeping overall costs within budget

      b) Delivering the software to the customer at the agreed time

      c) Maintaining a happy and well-functioning development team

      d) Avoiding costumer complaints.

ii) Which of the following is not considered as a risk in project management ?

a) Specification Delays

b) Product Competition

c) Testing

d) Staff Turnover.

iii) Which of the following is/are main parameters that you should use when computing the costs of a software development project ?

a) Travel and training costs

b) Hardware and software costs

c) Effort costs (the costs of paying software engineers and managers)

d) All of these.

iv) The Incremental Model is a result of combination of elements of which two models ?

a) Build and FIX Model and Waterfall Model

b) Linear Model and RAD Model

c) Linear Model and Prototyping Model

d) Waterfall Model and RAD Model.

v) The spiral model was originally proposed by

a) IBM b) Barry Boehm

c) Pressman d) Royce.

vi) Degree to which design specifications are followed in manufacturing the product is called

a) Quality control

b) Quality of conformance

c) Quality assurance

d) None of these.

vii) Which of the following process ensures that versions of systems and components are recorded and maintained ?

a) Codeline

b) Configuration control

c) Version

d) Workspace.

viii) Which of the following is the reason that software is delivered late ?

a) Changing customer requirements that are not reflected in schedule changes

b) Technical difficulties that could not have been foreseen in advance

c) Human difficulties that could not have been foreseen in advance

d) All of these.

ix) Which of the following is a project scheduling method that can be applied to software development ?

a) PERT

b) CPM

c) CMM

d) Both PERT and CPM.

x) Alpha testing is a kind of ..... method.

a) system testing b) unit testing

c) integration testing d) white box testing.

xi) According to ISO 9001, the causes of non-conforming product should be

a) Deleted

b) Eliminated

c) Identified

d) Eliminated and Indentified.

xii) SCRUM is a framework for

a) Agile model of software development

b) Spiral model of software development

c) Evolutionary model

d) Waterfall model.

GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. a) Why is software testing necessary ?

   b) What are System Analysis and Design ? 2 + 3

3. a) Why is Spiral Model known as 'Meta Model' ?

   b) What do you mean by Perfective Maintenance ?

   2 + 3

4. Draw a use case diagram of library system.

5. Explain the RAD Model.

6. What are the features of good software ? What are the Top-down, Bottom-up approach ? 2 + 3

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 are the different categories of software development project according to the COCOMO estimation model ?

b) A project size of 350 KLOC is to be developed. Software development team has a moderate experience in developing similar type of projects and the project schedule is not very tight. Compute the effort, nominal development time, productivity and average staff size of the project.

c) What is the difference between intermediate and advanced COCOMO ? 3 + 8 + 4

9. For how many levels a software product is normally tested ? Explain Equivalence Class Partitioning with proper example. Explain Control Flow Diagram with an example. What do you know by Cyclomatic Complexity. 3 + 5 + 5 + 2

10. a)

Activity	Proceding 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.

b) What is Project Scheduling ? What is Gantt chart ? 10 + 5

11. Write short notes on any *three* of the following : 3 × 5

a) Software Quality

b) CPM

c) Reliability metrics

d) Risk management

e) SRS.