

B5.1-R4: SOFTWARE PROJECT MANAGEMENT

NOTE:

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.

- a) What do you mean by the term “project metrics”? Give one example of a project metric and briefly explain how it can be used in managing a project.
- b) Give one major advantage and one major disadvantage to the use of function points in estimation.
- c) What is the difference between ‘throwaway’ prototypes and ‘evolutionary’ prototypes? Compare their advantages.
- d) The number of people attending an inspection can have a direct impact on the effectiveness of the review. List the disadvantages of having either too few or too many people attend an inspection.
- e) What is project closure analysis? How are the results of project closure analysis useful?
- f) Explain why adding manpower to an already late project may not help to put it back on schedule.
- g) What are the main risk factors which may be encountered in the development of software?

(7x4)

2.

- a) During which process phase(s) would each of the following activities occur?
 - i) Creating a project schedule
 - ii) Determining the need for a bar code reader
 - iii) Requesting the addition of a file back-up capability
 - iv) Performing a feasibility analysis
 - v) Documenting the software interface to an SQL database
 - vi) Acceptance of the software application by the customer
- b) A public library is considering the implementation of a computer-based system to help administer book loans at libraries. Identify the stakeholders in such a project. What might be the objectives of such a project and how might the success of the project be measured in practical terms?

(6+12)

3.

- a) For each of the following objectives, state a metric you would use to help in achieving the objective, state whether it is a product or process metric, and explain how it would be applied.
 - i) avoid project schedule delays
 - ii) measure continuous quality improvement from one project to the next
 - iii) identify software parts that are exhibiting quality problems
 - iv) establish a baseline for improving schedule accuracy
- b) Explain in detail the Critical Path with the help of an example. What are the possible ways of speeding up the project duration obtained from critical path analysis?

(8+10)

4.

- a) Briefly outline how you transform a WBS into a Network Diagram. Draw a network diagram for the following set of activities:

Activity	Predecessors	Duration in working days
A	None	5
B	A	15
C	A	5
D	A	10
E	C and D	15
F	B and E	5
G	F	5

- b) List six common reasons behind project failures.

(12+6)

5.

- a) Identify at least four situations that cause project termination. Briefly discuss the important activities in the project termination process.

- b) Identify the important ways in which an object-oriented software development project differs from a traditional project. Identify one process model that may be suitable for object-oriented software development. Briefly justify your answer.

- c) What do you mean by process modelling? Why is it required? How can a process be modelled?

(6+6+6)

6.

- a) What do you mean by project auditing? Why is it required? Who carries out project auditing?

- b) What do you mean by project monitoring and control? What are the objectives of project monitoring and control? When in project development process is this activity undertaken? Briefly describe the different activities that are undertaken as part of project monitoring and control.

(6+12)

7.

- a) What is a milestone in software development? Give at least two examples of project milestones. Why is it considered helpful to have milestones in software development?

- b) Briefly explain the COCOMO 2 model. In what aspects is it an improvement over the original COCOMO model?

- c) Outline the factors in web application development projects that make management of web application development quite different from traditional software development?

(8+4+6)