Chapter 23: Planning and estimation

Your name:

Answer all questions. 1 mark per question

1.   What estimates have to be produced by software project managers?

   The effort required to complete each project activity,

   The time required to complete each activity,

   The total cost of each activity.

2.   What factors should be considered when deciding on a price for software?

   Market opportunity,

   Cost estimate uncertainty,

   Contractual terms

   Requirements volatility

   Financial health of the company developing the software.

3.   What is included in a quality plan and a validation plan?

   Quality plan: The quality procedures and standards that should be used in a project

   Validation plan: The approach, resources and schedule used for system validation.

4. What are the principal activities in the project scheduling process?

Identify activities, Identify activity dependencies, Estimate resources for activities, Allocate people to activities, Create project charts

5. How are bar charts used in project scheduling?

Bar-charts are a calendar based representation that show the duration of activities against time or show the times when individuals are assigned to work on particular activities against time. They show the expected start date, duration and end date of activities.

6. What are the most important differences between agile planning and plan-based development?

In plan-based development, a plan for the whole project is drawn up before the project starts and this plan is modified as more information becomes available during the project.

In agile planning, planning is iterative and only the next iteration of the software is planned, often in detail.

In plan-based development, the schedule is usually extended if problems occur; in agile planning, the system being developed is cut down so that the

7. Briefly describe two types of cost estimation techniques?

Experience-based techniques where the estimate is based on a manager's experience of past projects and the application domain.

Algorithmic cost modeling where a formulaic approach is used to estimate the development effort required, based on attributes of the software and the development team.

8.   What is the generic formula used in algorithmic cost modelling to compute the effort required to develop some software?

*Effort = Size ^{B} * M.*

Size = size of program; B is a constant between 1 and 1.5 that reflects attributes of the product and M is a multiplier that takes project and process attributes into account.

9.   What are the estimation models used in COCOMO II.?

The application composition model,

The early design model,

The reuse model,

The post-architecture model.

10.   What are the four classes of attribute used to compute the multiplier M?

Product attributes,

Computer attributes,

Personnel attributes,

Project attributes.