Master of Computer Science
MCAC 302: Software Engineering
Unique Paper Code: 223421302
Semester III
December-2024
Year of Admission: 2023/ 2022

Time: Three Hours   **Max. Marks: 70**

Note: All questions are compulsory. Attempt all the parts of a question together. Terms, abbreviations, and symbols have their standard meaning. Make suitable assumptions, if required. All parts of the questions carry equal marks.

1. **(a)** What is the importance of risk projection? Explain with risk table.

   (b) What is the importance of a decision tree? Find the expected cost for build, reuse, buy, and contract for a software-based system, X, (Figure 1, which depicts a decision tree) and give your remarks based on the expected cost values for the system, X.
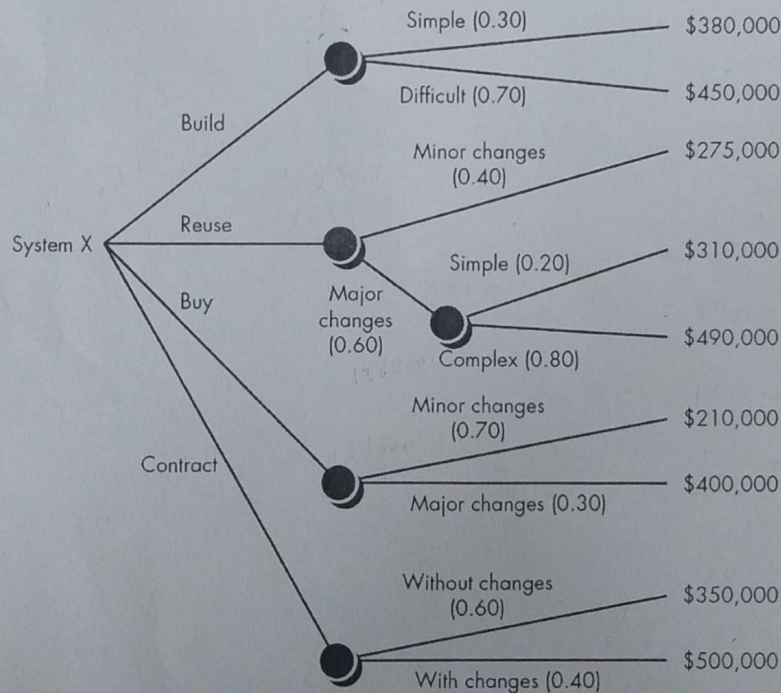

Figure 1

2. **(a)** Describe methods for scheduling of software projects with timeline charts.

   (b) List and explain the principles of good planning.

3. **(a)** What is requirements elicitation? What are the problems faced in eliciting requirements?

 (b) Define the requirements engineering. What are the various tasks and processes involved in it?

4. **(a)** Mention the five guidelines for allocating responsibilities to classes.

 (b) What is the purpose of domain analysis? How is it related to the concept of requirements patterns?

5. **(a)** Briefly describe each of the four elements of the design model.

 (b) Quality and reliability are related concepts but are fundamentally different in a number of ways. Discuss them. (Give the answer point-wise in tabular form)

6. **(a)** What is Coupling? Distinguish between Coupling and Cohesion.

 (b) Explain the strategic approach to software testing.

7. **(a)** What is Alpha Testing? How does it differ from Beta Testing? (Give the answer point-wise in tabular form)

 (b) How can project scheduling affect integration testing?

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