

Q1 - Software Project Management/Planning

1. Explain why the intangibility of software systems poses special problems for software project management.

(5 marks)

2. The table below sets out a number of tasks, their durations, and their dependencies. Draw a bar chart showing the project schedule.

Task	Duration (days)	Dependencies
T1	10	
T2	15	T1
T3	10	T1, T2
T4	20	
T5	10	
T6	15	T3, T4
T7	20	T3
T8	35	T7
T9	15	T6
T10	5	T5, T9
T11	10	T9
T12	20	T10
T13	35	T3, T4
T14	10	T8, T9
T15	20	T2, T14
T16	10	T15

(8 marks)

3. Risk Management is an essential part of a project manager's job. Give two examples of project, product and business risks that may occur in a software project and for each suggest possible countermeasures that could be used.

(12 marks)

Q2 - Software Testing

1. Explain why testing can only detect the presence of errors, not their absence.

(5 marks)

2. Some people argue that developers should not be involved in testing their own code but that all testing should be the responsibility of a separate team. Give 2 arguments for and 2 against testing by the developers themselves.

(8 marks)

3. The following statements have been made about Software Testing.

“The principle objective of software testing is to give confidence in the software”

“Software testing proves the existence of bugs not their absence.”

In your opinion why is Software Testing considered to be one of the most important stages of the software development process? Discuss.

(12 marks)

Q3 - Software Process Development

1. What are the fundamental activities that are common to all software processes?

(4 marks)

2. Outline why programs which are developed using incremental development are likely to bring benefits to the customer.

(5 marks)

3. A key decision in any project is selecting the most appropriate lifecycle model for the task at hand. Consider the following outlines of possible software projects:
 - i. An optician practice to store patient's records.
 - ii. A currency exchange records system for the FTSE Exchange.
 - iii. A system to manage the stock control of a leading toy retailer.
 - iv. A kiosk where you can buy a transport card.

For each of these classes of systems, identify what might be the most suitable and least suitable life cycle model for development. Justify your selection. (16 marks)

Q4 - Software Requirements

1. Briefly, outline three reasons why it is problematic for software systems to meet their specification.

(6 marks)

2. Often having software “fit for purpose” is more of a focus for software development projects. Suggest how the creation of a software requirements document can ensure a system will be fit for purpose.

(7 marks)

3. Some may claim that a documented process is preferable to an undocumented process. Discuss this claim, providing clear rationale and examples as you see appropriate.

(12 marks)