Chapter 1: Introduction

Your name:

Answer all questions. 1 mark per question

1. What are the essential attributes of good software?

Maintainability, dependability and security, efficiency and acceptability

2. What are the two fundamental types of software product?

Generic products that are designed to meet the needs of many different customers.

Customised products designed to meet the specific needs of a single customer.

3. What is software engineering?

An engineering discipline concerned with all aspects of software production from specification to system maintenance.

4. What are the four fundamental activities in software processes?

Software specification, software development, software validation and software evolution.

5. What is the distinction between computer science and software engineering?

Computer science is concerned with theories and methods of computers and software systems; software engineering is concerned with the practice of software production.

6. What are the 3 general issues that affect many different types of software?

Heterogeneity. Software may have to execute on several different types of system.
Business and social change, which drives requirements for software change.
Security and trust – our software systems have to be secure against external and internal threats so that we can trust those systems.

7. List 5 different types of software application.

Any 5 from stand-alone products, interactive transaction-based systems, embedded control systems, batch processing systems, entertainment systems, systems for modelling and simulation, data collection systems, systems of systems.

8. What software engineering fundamentals apply to all types of software systems?

a. Systems should be developed using a managed and understood development process.
b. Dependability and performance are key system characteristics
c. Understanding and managing the software specification and requirements are important.
d. Effective use should be made of available resources.

9. What are three key characteristics of the engineering of web-based software engineering?

Software reuse is the principal approach for constructing web-based systems, requirements for those systems cannot be completely specified in advance, User interfaces are constrained by the capabilities of web browsers.

10. What is a software engineering code of ethics?

A set of principles that set out, in a general way, standards of expected behaviour for professional software engineers.