Module/Unit 1 - Overview of System Analysis and Design

1. Which of the following problems can be considered to be contributing to the present software crisis?
    a. large problem size √
    b. lack of rapid progress of software engineering √
    c. lack of intelligent engineers
    d. shortage of skilled manpower √

2. Which of the following are essential program constructs (i.e. it would not be possible to develop programs for any given problem without using the construct)?
    a. sequence √
    b. selection √
    c. jump
    d. iteration √
3. In a classical waterfall model, which phase precedes the design phase ?
    a. Coding and unit testing
    b. Maintenance
    c. Requirements analysis and specification √
    d. Feasibility study
4. Among development phases of software life cycle, which phase typically consumes the maximum effort?
    a. Requirements analysis and specification
    b. Design
    c. Coding
    d. Testing √
5. Among all the phases of the software life cycle, which phase consumes the maximum effort?
    a. Design
    b. Maintenance √
    c. Testing
    d. Coding
6. In the classical waterfall model during which phase is the Software Requirement Specification (SRS) document produced?
    a. Design
    b. Maintenance
    c. Requirements analysis and specification √
    d. Coding

7. Which phase is the last development phase of a classical waterfall software life cycle?
    a. Design
    b. Maintenance
    c. Testing √
    d. Coding
8. Which development phase in the classical waterfall life cycle immediately follows the coding phase?
    a. Design
    b. Maintenance
    c. Testing √
    d. Requirement analysis and specification
9. Out of the following life cycle models, which one can be considered as the most general model, and the others as specialization of it?
    a. Classical Waterfall Model √
    b. Iterative Waterfall Model
    c. Prototyping Model
    d. Spiral Model
10. Evolutionary life cycle model is ideally suited for development of very small software products typically requiring a few months of development effort. (True/***False (√)***)
11. Prototyping life cycle model is the most suitable one for undertaking a software development project susceptible to schedule slippage. (True/***False (√)***)
12. Spiral life cycle model is not suitable for products that are vulnerable to a large number of risks. (True/***False (√)***)
13. An SRS document normally contains
    a. Functional requirements of the system √
    b. Module structure
    c. Configuration management plan
    d. Non-functional requirements of the system √
    e. Constraints on the system √
14. The structured specification technique that is used to reduce the effort in writing specification is
    a. Incremental specification
    b. Specification instantiation
    c. Both of the above √
    d. None of the above
15. Examples of executable specifications are
    a. Third generation languages
    b. Fourth generation languages √
    c. Second-generation languages
    d. First generation languages

16. Functional requirements address maintainability, portability, and usability issues. (True/***False (√)***)
17. The edges of the decision tree represent corresponding actions to be performed according to conditions. (True/***False (√)***)
18. The upper rows of the decision table specify the corresponding actions to be taken when an evaluation test is satisfied. (True/***False (√)***)
19. A column in a decision table is called an attribute. (True/***False (√)***)
20. Pre – conditions of axiomatic specifications state the requirements on the parameters of the function before the function can start executing.(***True (√)***/False (√))
21. Post – conditions of axiomatic specifications state the requirements on the parameters of the function when the function is completed. (***True (√)***/False (√))
22. Applications developed using 4 GLs would normally be more efficient and run faster compared to applications developed using 3 GL. (True/***False (√)***)