

For the following, mark all options which are true.

1. Which of the following problems can be considered to be contributing to the present software crisis?

- ☐ large problem size ✓
- ☐ lack of rapid progress of software engineering ✓
- ☐ lack of intelligent engineers
- ☐ 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)?

- ☐ sequence ✓
- ☐ selection ✓
- ☐ jump
- ☐ iteration ✓

For the following, mark all options which are true.

1. In a classical waterfall model, which phase precedes the design phase ?
- ☐ Coding and unit testing
 - ☐ Maintenance
 - ☒ Requirements analysis and specification
 - ☐ Feasibility study

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2. Among development phases of software life cycle, which phase typically consumes the maximum effort?
- ☐ Requirements analysis and specification
 - ☐ Design
 - ☐ Coding
 - ☒ Testing
3. Among all the phases of software life cycle, which phase consumes the maximum effort?
- ☐ Design
 - ☒ Maintenance
 - ☐ Testing
 - ☐ Coding
4. In the classical waterfall model during which phase is the Software Requirement Specification (SRS) document produced?
- ☐ Design
 - ☐ Maintenance
 - ☒ Requirements analysis and specification
 - ☐ Coding
5. Which phase is the last development phase of a classical waterfall software life cycle?
- ☐ Design
 - ☐ Maintenance
 - ☒ Testing
 - ☐ Coding
6. Which development phase in classical waterfall life cycle immediately follows coding phase?
- ☐ Design
 - ☐ Maintenance
 - ☒ Testing
 - ☐ Requirement analysis and specification
7. Out of the following life cycle models which one can be considered as the most general model, and the others as specialization of it?
- ☒ Classical Waterfall Model
 - ☐ Iterative Waterfall Model
 - ☐ Prototyping Model
 - ☐ Spiral Model

For the following, mark all options which are true.

1. An SRS document normally contains

- ☐ Functional requirements of the system ✓
- ☐ Module structure
- ☐ Configuration management plan
- ☐ Non-functional requirements of the system ✓
- ☐ Constraints on the system ✓

2. The structured specification technique that is used to reduce the effort in writing specification is

- ☐ Incremental specification
- ☐ Specification instantiation
- ☐ Both of the above ✓
- ☐ None of the above

3. Examples of executable specifications are

- ☐ Third generation languages
- ☐ Fourth generation languages ✓
- ☐ Second-generation languages
- ☐ First generation languages

1. UML is a

- ☐ a language to model syntax
- ☐ an object-oriented development methodology
- ☐ an automatic code generation tool
- ☒ none of the above ✓

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2. Which of the following view captured by UML diagrams can be considered as black box model of a system?

- ☐ structural view
- ☐ behavioral view
- ☒ user's view ✓
- ☐ environmental view
- ☐ implementation view

3. In the context of use case diagram, the stick person icon is used to represent

- ☒ human users ✓
- ☐ external systems
- ☐ internal systems
- ☐ none of the above

Mark all options which are true.

1. The side effects of a function call include

- ☐ modification of parameters passed by reference
- ☐ modification of global variables
- ☐ modification of I/O operations
- ☒ all of the above

2. Code review for a module is carried out

- ☐ as soon as skeletal code written
- ☐ before the module is successfully compiled
- ☒ after the module is successfully compiled and all the syntax errors have been eliminated
- ☐ before the module is successfully compiled and all the syntax errors have been eliminated

3. An important factor that guides the integration plan for integration testing is

- ☐ ER diagram
- ☐ data flow diagram
- ☒ structure chart
- ☐ none of the above

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4. An integration testing approach, where all the modules making up a system are integrated in a single step is known as

- ☐ top-down integration testing
- ☐ bottom-up integration testing
- ☒ big-bang integration testing
- ☐ mixed integration testing

5. An integration testing approach, where testing can start whenever modules become available is known as

- ☐ top-down integration testing
- ☐ bottom-up integration testing
- ☐ big-bang integration testing
- ☒ mixed integration testing

6. When a system interfaces with other types of systems then that time the testing that will be required is

- ☐ volume testing
- ☐ configuration testing
- ☒ compatibility testing
- ☐ maintenance testing

7. When a system being tested is an upgradation of an already existing system to fix some bugs or enhance functionality, performance, etc. then the testing required to be performed is:

- ☐ documentation testing
- ☒ regression testing
- ☐ maintenance testing
- ☐ recovery testing

8. Error seed can be used

- ☐ to estimate the total number of defects in the system
- ☐ to estimate the total number of seeded defects in a system
- ☒ to estimate the number of residual errors in a system
- ☐ none of the above

9. Test summary report comprises of

- ☐ the total number of tests that have been applied to a subsystem
- ☐ how many tests have been successful
- ☐ how many tests have been unsuccessful
- ☐ all of the above

Mark all options which are true.

1. Normally software project planning activity is undertaken

- ☒ before the development starts to plan the activities to be undertaken during development
- ☐ once the development activities start
- ☐ after the completion of the project monitoring and control
- ☐ none of the above

2. Which of the following estimation is carried out first by a project manager during project planning?

- ☐ estimation of cost
- ☐ estimation of the duration of the project
- ☒ project size estimation
- ☐ estimation of development effort

3. Sliding Window Planning involves

- ☒ planning a project before development starts
- ☒ planning progressively as development proceeds
- ☐ planning a project after development starts
- ☐ none of the above

4. A project estimation technique based on making an educated guess of the project parameters (such as project size, effort required to develop the software, project duration, cost etc.) is

- ☐ analytical estimation technique
- ☐ heuristic estimation technique
- ☒ empirical estimation technique
- ☐ none of the above

5. An example of single variable heuristic cost estimation model is

- ☐ Halstead's software science
- ☒ basic COCOMO model
- ☐ intermediate COCOMO model
- ☐ complete COCOMO model

6. Operating systems and real-time system programs can be considered as

- ☐ application programs
- ☒ utility programs
- ☒ system programs
- ☐ none of the above

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7. Compilers, linkers, etc. can be considered as

- ☐ application programs
- ☒ utility programs
- ☐ system programs
- ☐ none of the above

8. Data processing programs are considered as

- ☐ utility programs
- ☐ system programs
- ☒ application programs
- ☐ none of the above

9. During project scheduling, resource allocation to different activities is done using which of the following representations?

- ☐ PERT chart
- ☐ activity network representation
- ☐ work breakdown structure
- ☒ Gantt chart