

## SOFTWARE ENGINEERING – MID-TERM EXAM

|             |                 |                               |           |        |
|-------------|-----------------|-------------------------------|-----------|--------|
| Year: 2022  | Blocks: 1 to 3a | Date: Wednesday, may 11, 2022 | Time: 60' | Type B |
| Surname(s): | Name:           |                               | NIA:      |        |

**RULES:**      **Evaluation over 20 points**  
**Well answered questions: + 1.0**  
**Poorly answered questions: - 0.25**  
**Unanswered questions: ± 0.0**

### BLOCK 1 – BASIC TOPIS

#### 1) In reference to the design document:

- a) Outlines the overall view of the elements/components.
- b) Defines how the overall structure and its behaviour will be implemented.
- c) It must be derived from the requirements.
- d) It includes the characteristics and relationships of the software elements.
- e) All of the above.

#### 2) What does the Design not involve?

- a) Minimize the distance between the problem domain and the solution domain.
- b) It must be structured to admit changes.
- c) It must be uniform and robust.
- d) Design is writing code.
- e) None of the above.

#### 3) Which of the following statements about the Evolutionary model is true?

- a) It is a Start-to-End at each defined stage.
- b) In each iteration a new feature is added, but always keeping in mind the global vision.
- c) Construction is based on short feature additions to the final project in one shot.
- d) The end of each phase must be defined.
- e) None of the above.

#### 4) The relevant stages in the Software Life Cycle are:

- a) Requirements, analysis, design, coding, testing, acceptance.
- b) Requirements, analysis, design, development, testing.
- c) Analysis, design, development, testing, validation.
- d) Analysis, design, coding, testing.
- e) None of the above.

#### 5) Main Software Engineering objectives focus on:

- a) Implementation and Development.
- b) Minimize cost.
- c) Operational area, Review area and Transitional area.
- d) Only on Efficiency.
- e) None of the above.

#### 6) In the field of software engineering, the basic concepts are:

- a) Problem, specification, algorithm, program.
- b) Problem domain, solution domain.
- c) Analysis, design, implementation.
- d) Requirements, analysis, design, coding, testing, acceptance.
- e) None of the above.

**7) What is the Task Board in SCRUM?**

- a) A 2D matrix to organize and manage tasks and backlogs.
- b) A tool to describe and create user stories.
- c) A tool for the management of project planning.
- d) A graphical tool to monitor developers' progress.
- e) None of the above.

**8) In SCRUM to check the achievement of the objectives, which meeting is used?**

- a) Sprint planning meeting.
- b) Daily scrum meeting.
- c) Sprint review meeting.
- d) Retrospective meeting.
- e) All of the above.

**9) Which of the following statements about the phases of SCRUM is true?**

- a) System requirements never change.
- b) The daily Scrum meeting is a session to resolve doubts about the requirements.
- c) The product owner only participates in the project kick-off.
- d) No external influence can interfere with the team during the sprint.
- e) None of the above.

**10) Which of the following statements is true?**

- a) The Sprint Backlog is created only by the Scrum Team.
- b) The duration of the Sprint Backlog is the whole project cycle.
- c) The Product Backlog is more detailed than the Sprint Backlog.
- d) The Product Backlog is accurate and can not be changed.
- e) All of the above.

**11) What is the main responsibility of the 'Scrum Master' role?**

- a) Decide the Product Backlog.
- b) Set up the meetings and monitor the progress.
- c) Validate the product.
- d) Represents the client.
- e) None of the above.

**12) Which of the following statements about the Agile Software Development is false?**

- a) It embraces changes in requirements.
- b) The role of the participants never changes.
- c) Employers and developers should work together on a daily basis during the entire project.
- d) Deliver functional software frequently, from a couple of weeks to a couple of months, with a preference for the shorter time frame.
- e) None of the above.

**13) Which of the following is not a software development paradigm?**

- a) Waterfall.
- b) Prototyping.
- c) Incremental
- d) Evolutionary.
- e) None of the above.

**14) Which of the following statements about the S.R.S. is true?**

- a) This document describes only the final implementation.
- b) **This document only lists the requirements that shall be implemented.**
- c) This document never changes.
- d) For easy to read, the natural language is preferred for this document.
- e) None of the above.

**15) Which of the following statements about the principles of analysis is false?**

- a) **A shared notation between different methods is essential for an effective analysis.**
- b) Partitioning is necessary to understand the structure of complex systems.
- c) Abstraction makes it possible to define an entity or a problem in general terms.
- d) Projection is necessary to define the system from different points of view.
- e) None of the above.

**16) Which of the following statements is true?**

- a) Interviews with the client are a direct source to obtain the user requirements.
- b) Surveys require a lot of effort and time.
- c) Documentation review needs to be done by the development team.
- d) Brainstorming must be managed to be profitable.
- e) **All of the above.**

**17) Which of the following statements about the requirements gathering is false?**

- a) In the requirements gathering process, several different methods can be used at the same time.
- b) The prototype is an example without adding detail functionality.
- c) Requirements' gathering is the process of generating a list of all requirements from different sources.
- d) User Observation should experience the actual operations on the customer side.
- e) **None of the above.**

**18) Which of the following is a non-functional requirement related to a Design Objective?**

- a) Users must connect using a smartphone.
- b) The database must support at least 10 million entries.
- c) In the case of an error, the system must be restarted within 1 minute.
- d) **Maintenance of the system must be simple.**
- e) None of the above.

**19) Which of the following is a functional requirement?**

- a) Maximum of 2 seconds for a specific page to load.
- b) **Send an email when the customer opens a new account.**
- c) The system must handle up to 500 users concurrently.
- d) Users interact with the system using a web browser.
- e) None of the above.

**20) The objective of the software analysis phase is:**

- a) Understand the problem domain.
- b) **Understand the problem domain and generate the requirements specification.**
- c) Understand the problem domain, generate the requirements specification, describe the solution domain.
- d) Understand the problem domain and describe the solution domain.
- e) None of the above.

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### ANSWERS TO THE TEST

*Only the answers indicated in this table will be taken into account in the correction*

|    |   |   |   |   |   |    |   |   |   |   |   |
|----|---|---|---|---|---|----|---|---|---|---|---|
| 1  | a | b | c | d | e | 11 | a | b | c | d | e |
| 2  | a | b | c | d | e | 12 | a | b | c | d | e |
| 3  | a | b | c | d | e | 13 | a | b | c | d | e |
| 4  | a | b | c | d | e | 14 | a | b | c | d | e |
| 5  | a | b | c | d | e | 15 | a | b | c | d | e |
| 6  | a | b | c | d | e | 16 | a | b | c | d | e |
| 7  | a | b | c | d | e | 17 | a | b | c | d | e |
| 8  | a | b | c | d | e | 18 | a | b | c | d | e |
| 9  | a | b | c | d | e | 19 | a | b | c | d | e |
| 10 | a | b | c | d | e | 20 | a | b | c | d | e |