SOFTWARE ENGINEERING – MID-TERM EXAM

Year: 2022	Blocks: 1 to 3a	Date: Wednesday, may 11, 2022	Time: 60'	Type A
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 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.

2) 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.

3) 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.

4) Which of the following statements about the Evolutionary model is <u>true</u>?
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.

5) What does the Design <u>not</u> 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.

6) 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.

BLOCK 2 – SOFTWARE MANAGEMENT PRINCIPLES

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

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

8) Which of the following statements about the Agile Software Development is <u>false</u>?

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.

9) 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.

10) Which of the following statements is <u>true</u>?

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) Which of the following statements about the phases of SCRUM is <u>true</u>?

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.

12) 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.

13) 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.

BLOCK 3a – SOFTWARE MODELING – PART I: SOFTWARE ANALYSIS

14) 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.

15) 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.

16) 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.

17) Which of the following statements about the requirements gathering is <u>false</u>?

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 statements is <u>true</u>?

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.

19) Which of the following statements about the principles of analysis is <u>false</u>?

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.

20) Which of the following statements about the S.R.S. is <u>true</u>?

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.