

Pergunta 1

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

What of the following IS NOT a software engineering knowledge area according to the Guide to the Software Engineering Body of Knowledge (SWEBOK)?

Selecione uma opção de resposta:

- ☐ a. Software Design
- ☐ b. Software Requirements
- ☐ c. Software Testing
- ☒ d. User Experience Design ✓
- ☐ e. I don't want to answer

Pergunta 2

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

The first Software Engineering conference in 1968, marking the official start of the profession of software engineering, was promoted by what organization?

Selecione uma opção de resposta:

- ☐ a. IEEE
- ☐ b. I don't want to answer
- ☒ c. NATO ✓
- ☐ d. ACM
- ☐ e. MIT

Pergunta 3

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following IS NOT a common activity in all software development processes?

Selecione uma opção de resposta:

- ☐ a. Design and implementation
- ☐ b. Validation
- ☐ c. Specification
- ☒ d. Round-trip engineering ✓
- ☐ e. I don't want to answer

Pergunta 4

Correto

Pontuou 0,550 de 0,550

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The distinction between plan-driven and agile processes is that:

Selecione uma opção de resposta:

- ☐ a. In plan-driven processes, plans can't be changed (contrarily to agile)
- ☐ b. In agile processes, there is no planning
- ☐ c. I don't want to answer
- ☒ d. In agile processes, planning is incremental (contrarily to plan-driven processes, that do all the planning up-front) ✓
- ☐ e. In plan-driven processes, plans are documented (contrarily to agile processes)

Pergunta 5

Correto

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🚩 Destacar pergunta

The waterfall model is best suited for what kind of projects?

Selecione uma opção de resposta:

- ☐ a. For projects with significant uncertainties in requirements and/or technologies
- ☐ b. I don't want to answer
- ☐ c. It is not suited for any project
- ☒ d. For large, multi-site, projects, with stable requirements ✓
- ☐ e. For projects with frequent requirements changes

Pergunta 6

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

"Systematic reuse where systems are assembled from existing components or COTS (Component-Off-The-Shelf) systems" describes what process model?

Selecione uma opção de resposta:

- ☐ a. The "software prototyping" process model
- ☐ b. I don't want to answer
- ☐ c. The "waterfall" process model
- ☒ d. The "integration and configuration" process model ✓
- ☐ e. The "incremental development" process model

Pergunta 7

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following IS NOT an advantage of incremental development?

Selecione uma opção de resposta:

- ☐ a. System functionality is available earlier
- ☐ b. I don't want to answer
- ☐ c. The cost of accommodating changing requirements is reduced
- ☒ d. System structure tends to improve as increments are added ✓
- ☐ e. More frequent & early customer feedback reduces failure risk

Pergunta 8

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

RUP is an acronym for

Selecione uma opção de resposta:

- ☐ a. I don't want to answer
- ☐ b. Rapid Unified Process
- ☐ c. Rational UML Profile
- ☒ d. Rational Unified Process ✓
- ☐ e. Rational Unified Practices

Pergunta 9

Correto Pontuou 0,550 de 0,550 Destacar pergunta

Which of the following best characterizes the RUP organization?

Selecione uma opção de resposta:

- ☐ a. A project is decomposed into several iterations, each of which can be decomposed into 4 phases (Inception, Elaboration, Construction and Transition).
- ☐ b. I don't want to answer
- ☐ c. A project is decomposed into 6 phases (business modeling, requirements, analysis & design, implementation, test, deployment), each of which can be decomposed into several iterations.
- ☐ d. A project is decomposed into 4 phases (Inception, Elaboration, Construction and Transition), which can run in parallel.
- ☒ e. A project is decomposed into 4 phases (Inception, Elaboration, Construction and Transition), each of which can be decomposed into several iterations. ✓

Pergunta 10

Correto Pontuou 0,550 de 0,550 Destacar pergunta

XP is an acronym for

Selecione uma opção de resposta:

- ☒ a. eXtreme Programming ✓
- ☐ b. eXtreme Process
- ☐ c. I don't want to answer
- ☐ d. eXperience Programming
- ☐ e. eXtensible Process

Pergunta 11

Correto Pontuou 0,550 de 0,550 Destacar pergunta

Which of the following IS NOT a XP practice?

Selecione uma opção de resposta:

- ☐ a. I don't want to answer
- ☐ b. Test-driven Development
- ☒ c. Design by Contract ✓
- ☐ d. Continuous Integration
- ☐ e. Pair Programming

Pergunta 12


Correto Pontuou 0,550 de 0,550 Destacar pergunta

Which of the following IS NOT a Scrum event?

Selecione uma opção de resposta:

- ☒ a. Sprint kick-off meeting ✓
- ☐ b. I don't want to answer
- ☐ c. Sprint retrospective
- ☐ d. Sprint review
- ☐ e. Sprint planning meeting

Pergunta 13


Correto Pontuou 0,550 de 0,550  Destacar pergunta

In Scrum, which of the following is NOT a responsibility of the Product Owner?

Selecione uma opção de resposta:

- ☐ a. Prioritize the user stories
- ☐ b. Accept or reject work results
- ☐ c. Define the user stories of the product
- ☒ d. Estimate user stories in story points ✓
- ☐ e. I don't want to answer

Pergunta 14


Correto Pontuou 0,550 de 0,550  Destacar pergunta

In Scrum, what does the team velocity represent?

Selecione uma opção de resposta:

- ☐ a. The number of lines of code written by the team per sprint
- ☒ b. The total number of story points (of user stories) implemented per sprint ✓
- ☐ c. I don't want to answer
- ☐ d. The number of user stories implemented per sprint
- ☐ e. The number of hours worked by the team per sprint

Pergunta 15


Correto Pontuou 0,550 de 0,550  Destacar pergunta

Which of the following is NOT a requirements engineering activity?

Selecione uma opção de resposta:

- ☐ a. requirements specification
- ☐ b. requirements validation
- ☐ c. I don't want to answer
- ☐ d. requirements elicitation
- ☒ e. requirements implementation ✓

Pergunta 16

Incorreto Pontuou -0,183 de 0,550  Destacar pergunta

Which of the following techniques is most useful to discover new and innovative requirements?

Selecione uma opção de resposta:

- ☐ a. I don't want to answer
- ☐ b. Prototyping
- ☐ c. Social observation and analysis
- ☒ d. Interviews ✗
- ☐ e. Brainstorming

Pergunta 17

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following is NOT a valid element or relationship in UML use case diagrams?

Selecione uma opção de resposta:

- ☒ a. message ✓
- ☐ b. «include»
- ☐ c. I don't want to answer
- ☐ d. actor
- ☐ e. use case

Pergunta 18

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following one is NOT a valid element or relationship in a domain model (represented by a UML class diagram)?

Selecione uma opção de resposta:

- ☐ a. attribute
- ☒ b. actor ✓
- ☐ c. class
- ☐ d. constraint
- ☐ e. I don't want to answer

Pergunta 19

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

The focus of architectural design is to partition a system into a set of:

Selecione uma opção de resposta:

- ☐ a. classes
- ☐ b. data structures
- ☒ c. components ✓
- ☐ d. I don't want to answer
- ☐ e. use cases

Pergunta 20

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following is NOT a view in the 4+1 view model of software architecture?

Selecione uma opção de resposta:

- ☐ a. Implementation View
- ☐ b. I don't want to answer
- ☐ c. Logical View
- ☒ d. Maintenance View ✓
- ☐ e. Deployment View

Pergunta 21

Correto

Pontuou 0,550 de 0,550

Destacar pergunta

Which UML diagram is best suited to show the system hardware and how software components are distributed by hardware nodes?

Selecione uma opção de resposta:

- ☐ a. I don't want to answer
- ☒ b. Deployment diagram ✓
- ☐ c. Component diagram
- ☐ d. Distribution diagram
- ☐ e. Communication diagram

Pergunta 22

Correto

Pontuou 0,550 de 0,550

Destacar pergunta

Select the most appropriate architectural pattern for building each type of system.

Distributed applications	Client-server and n-tier systems	✓
Interactive systems	Model-view-controller	✓
Batch processing systems	Pipes and filters	✓
Operating systems	Layered architecture	✓

Pergunta 23

Correto

Pontuou 0,550 de 0,550

Destacar pergunta

Check if we are **building the right product** and **building the product right** refer respectively to

Selecione uma opção de resposta:

- ☐ a. Testing and Reviews
- ☐ b. I don't want to answer
- ☒ c. Validation and Verification ✓
- ☐ d. Verification and Validation
- ☐ e. Reviews and Testing

Pergunta 24

Correto

Pontuou 0,550 de 0,550

Destacar pergunta

Which of the following is NOT a type of software review?

Selecione uma opção de resposta:

- ☐ a. Team inspection
- ☒ b. Personal audit ✓
- ☐ c. Peer review
- ☐ d. Personal review
- ☐ e. I don't want to answer

Pergunta 25

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Which of the following is NOT a test level or phase?

Selecione uma opção de resposta:

- ☐ a. integration testing
- ☐ b. I don't want to answer
- ☐ c. system testing
- ☒ d. black box testing ✓
- ☐ e. unit testing

Pergunta 26

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

Retesting a system or component to check that modifications didn't cause unintended effects is

Selecione uma opção de resposta:

- ☐ a. I don't want to answer
- ☐ b. Defect testing
- ☒ c. Regression testing ✓
- ☐ d. Reliability testing
- ☐ e. Smoke testing

Pergunta 27

Correto

Pontuou 0,550 de 0,550

🚩 Destacar pergunta

What is the minimum number of test cases needed to cover all statements and decisions in this Java code?

```
double maxAbs(double x, double y) {  
    if (x < 0)  
        x = -x;  
    if (y < 0)  
        y = -y;  
    if (x > y)  
        return x;  
    else  
        return y;  
}
```

Selecione uma opção de resposta:

- ☐ a. 3
- ☒ b. 2 ✓
- ☐ c. 1
- ☐ d. I don't want to answer
- ☐ e. 4

Pergunta 28

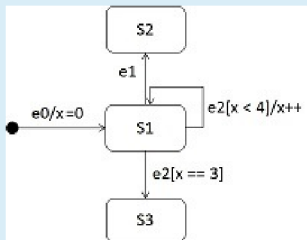
Correto

Pontuou 0,550 de 0,550

Destacar pergunta

What is the minimum number of test cases (test sequences starting in the initial node) needed to cover all states and transitions in this UML state machine?

(Notation in transitions: *event*[*condition*]/*action*)



Selecione uma opção de resposta:

- ☐ a. 3
- ☐ b. 1
- ☐ c. 4
- ☐ d. I don't want to answer
- ☒ e. 2 ✓

Pergunta 29

Incorreto

Pontuou -0,183 de 0,550

Destacar pergunta

Which of the following is NOT a black-box testing technique?

Selecione uma opção de resposta:

- ☒ a. Equivalence class partitioning ✗
- ☐ b. Program flow graph analysis
- ☐ c. Boundary value analysis
- ☐ d. State machine testing
- ☐ e. I don't want to answer

Pergunta 30

Correto

Pontuou 0,550 de 0,550

Destacar pergunta

Which one is NOT a critical web application security risk according to OWASP Top-10 2017?

Selecione uma opção de resposta:

- ☐ a. Broken Authentication
- ☐ b. I don't want to answer
- ☒ c. Session Cookies ✓
- ☐ d. Injection (e.g., SQL Injection)
- ☐ e. Sensitive Data Exposure

Pergunta 31

Respondida

Pontuação 0,870

Destacar pergunta

Briefly describe a famous software failure, its causes, consequences and lessons learned.

A famous software failure was related to the Therac-25, caused by a software error, more specifically a race condition. Because of it, huge amounts of radiation were emitted onto patients, and at least 5 died as a result. In this specific problem, a main issue was the developers' over-confidence since they didn't properly test the device's features. So, a lesson to be learned, besides being humble, is to always test the project before launching an executable iteration, by using a complete test suite of for example, unit, integration, and/or system tests.

Pergunta 32

Respondida

Pontuação 0,870

Destacar pergunta

Briefly describe a well-known software development methodology or process that you have studied in assignment 2.

One of the software processes that my group studied in assignment 2 was Scrum. It is an Agile methodology, meaning that planning is incremental.

It is mainly characterized by:

Values:

- Openness
- Transparency
- Courage
- ...

Events:

- Sprint planning meeting: The team reviews what to do in the current sprint.
- Daily Scrum: Daily, 15 minute, stand-up meeting where the team updates what is going on
- Sprint review: The team reviews what they accomplished/implemented in the Sprint.
- Sprint retrospective: The team discusses what they'd like to start/stop/continue doing

Pergunta 33

Respondida

Pontuação 0,880

Destacar pergunta

With regards to your experience in the context of the T3 assignment, describe the role played by git branches in open source software development.

In order to fix the 2 issues we were assigned, we had to use git branches. In this context, each one represented a fix, since we had to fork the main repository, create a branch for each fix, and later create two pull requests in order to merge our code onto the master branch of the main repository.

In other contexts, a branch can be used to represent a new feature that can also later be merged onto the master branch of the repository. This can be used to protect the master branch in order to always have working increments.

Pergunta 34

Respondida

Pontuação 0,880

Destacar pergunta

With regards to your experience in the context of the T3 assignment, describe ways found and used by open source teams to encourage and support new contributors.

Most large open-source projects have a labeling system on their Issues tab (some of them are created by GitHub, and others by the project maintainers). For example, in order to choose our issues, we searched VS Code's repository for Issues labeled as 'Good first issue' or 'Help wanted'. The project contributors are also very active and quickly answer on the issues' threads in order to clarify what should be done, and give code pointers. There's also the README files and wikis, that explain how to contribute, build, test, and run the application, so that the users can easily test their fix/feature in order to create a pull request.