Midterm Exam - Due April 14, 2020

Due	**Points**	**Questions**	**Available**	**Time Limit**
No due date	40	30	after Mar 15 at 10:11pm	None

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	1,614 minutes	39 out of 40

ⓘ Correct answers are hidden.

Submitted Apr 6 at 9:04pm

Question 1

1 / 1 pts

By the end of the architecture phase of a software development project, all architectural decisions will be made.

- ○ True
- ◉ False

Question 2

1 / 1 pts

Modules are structures which focus on the way elements interact with each other at runtime.

- ○ True
- ◉ False

Question 3

1 / 1 pts

Architecture is an abstraction which is essential to tame the complexity of a software system.

- ◉ True
- ○ False

Question 4

1 / 1 pts

Quality attribute requirements should be well-specified and prioritized.

- ◉ True
- ○ False

Question 5

1 / 1 pts

The analysis of an architecture enables early prediction of a system's qualities.

- (•) True
- ( ) False

Question 6

1 / 1 pts

Developing an architecture is useful because it can help to improve the accuracy of cost and schedule estimates.

- (•) True
- ( ) False

Question 7

1 / 1 pts

Project stakeholders can only be from the organization which develops the software product.

- ○ True
- ◉ False

Question 8

1 / 1 pts

It is a good idea to consider your system under different environments, because your system's response may vary in those different environments.

- ◉ True
- ○ False

Question 9

1 / 1 pts

A standard list of quality attributes will never be complete because people may always invent new quality attributes.

- ◉ True

False

Question 10

1 / 1 pts

You should design your software to try and meet every quality attribute in a standard list of quality attributes because that is good software engineering practice.

True

False

Question 11

1 / 1 pts

Developing a conceptual model of a new quality attribute can help to create a set of design approaches to achieve it.

True

False

Question 12

1 / 1 pts

An architecture pattern can contain many different tactics.

- (•) True
- ( ) False

Question 13

1 / 1 pts

In a layered architecture, any module may use any other module.

- ( ) True
- (•) False

Question 14

1 / 1 pts

An architecture pattern establishes a relationship between a context, a problem, and a solution.

- (•) True
- ( ) False

Question 15

1 / 1 pts

A cost benefit analysis should be performed to determine if constructing a quality attribute model is worth the benefit it could bring.

- (•) True
- ( ) False

Question 16

1 / 1 pts

The cost of constructing a quality attribute model goes higher the later you are in the life cycle, but the confidence in the model increases as well.

- (•) True
- ( ) False

Question 17

1 / 1 pts

You may need to create your own quality attribute model because models do not currently exist for all quality attributes.

- (•) True
- ( ) False

Question 18

1 / 1 pts

Pick out the statement which is not true.

- ( ) An architecture allows one to reason about the system and the system properties.
- (•) Simple and trivial software programs do not have an architecture.
- ( ) Architecture includes the behavior of the software system.
- ( ) Allocation structures describe the mapping from software structures to the system's environments.

Question 19

1 / 1 pts

Which type of structure would help to answer the following question: What processor does each software element execute on?

- (•) Allocation Structures
- ( ) Module Structures
- ( ) Component and Connector Structures
- ( ) All of the Above

Question 20

1 / 1 pts

Which software changes are the most desirable?

- (•) Local Change
- ( ) Nonlocal Change
- ( ) Architectural Change
- ( ) Architectural Change or Local Change

Question 21

1 / 1 pts

Select the architectural context that contains the set of quality attributes that the architecture can help to achieve.

- (•) Technical
- ( ) Project Life-Cycle
- ( ) Business
- ( ) Professional

Question 22

1 / 1 pts

Select the architectural context which defines a development process that tells teams of software engineers how to go about developing the system.

- ( ) Technical
- (•) Project Life-Cycle

- Business
- Professional

Question 23

1 / 1 pts

Which type of requirement has the greatest impact on the design of the architecture?

- Functional Requirements
- (•) Quality Attribute Requirements
- Constraints
- Data Requirements

Question 24

1 / 1 pts

Which well-specified part of a quality attribute scenario can you use to determine if your system has met the quality attribute requirement?

- Source of Stimulus

- Artifact
- Response
- (•) Response Measure

Question 25

1 / 1 pts

Which category of design decisions establishes a point in the life cycle about when the choice of alternatives is restricted?

- Allocation of Responsibilities
- Coordination Model
- (•) Binding Time Decisions
- Management of Resources

Question 26

1 / 1 pts

Which category of design decisions specifies how elements interact with each other through designed mechanisms?

- Allocation of Responsibilities
- (•) Coordination Model
- Binding Time Decisions
- Management of Resources

Question 27

1 / 1 pts

Which architecture pattern is not a good choice for interactive systems due to its lack of cycles which are necessary for user feedback?

- (•) Pipe-and-Filter Pattern
- Model-View-Controller Pattern
- Layered Pattern
- Client-Server Pattern

Question 28

1 / 1 pts

Which pattern is an allocation pattern?

- Pipe-and-Filter Pattern
- Layered Pattern
- Multi-Tier Pattern
- Publish-Subscribe Pattern

Incorrect

Question 29

0 / 1 pts

At which stage of the life cycle can monitors be used on the system to determine actual behavior and find bottlenecks?

- Requirements
- Architecture
- Fielded System
- All of the Above

Question 30

11 / 11 pts

Match the definition or description with the most appropriate quality attribute.

Software that is there and ready to carry out its task when you need it to be	Availability
Degree to which two or more systems can usefully exchange meaningful information	Interoperability
Ability to change software while minimizing cost and risk	Modifiability
Software system's ability to meet timing requirements	Performance
Measure of the system's ability to protect data and information from unauthorized access	Security
Ease with which software can be made to demonstrate its faults	Testability

How easy it is for users to accomplish desired tasks	Usability
Ability of a system to support the production of a set of variants which differ in a preplanned fashion	Variability
Ease with which software can be changed to run on a different platform	Portability
How an executable arrives at a host platform and how it is subsequently invoked	Deployability
Ability of the operations staff to view information about the system while it is executing	Monitorability