**Software Architectures quiz 1**

**1.Resynchoronizing the state of a repaired component with the current state of operation and then re-introducing this component is the tactic for improving**  
Select one:  
Security  
Performance  
Testability  
**Availability** {correct}  
  
**2.There are two applications with the following operational failure characteristics on a given day. Application 1 crashed 10 times and it took 5min to restart every time after the crash. Application 2 crashed 20 times and it took 2min to restart. Which one has a better availability?**  
Select one:  
their availability values can't be compared  
1 has the better availability  
**2 has the better availability{correct}**  
1 and 2 has more or less the same availability  
  
Availability = Total time system available / total period of time  
  
**3.While describing a deployment containing hardware infrastructure, you should**  
Select one:  
show a relationship between a package and a hardware infrastructure  
**show relationship between a process component and a hardware infrastructure** {correct}  
show relationship between a hardware component and a software module/sub-modules  
show a relationship between a module and a data item that the module uses  
  
**4.To capture data store and access to data from the store by various components you use**  
Select one:  
**component connector structure**{correct}  
work-allocation of modules  
component and hardware dependency  
Module dependency structure  
  
**5.An on-line tax-filing application uploads the form-16 document from the employer and it fills the tax return form of an employee once she logs into the system. The file-tax-return button submits the return form and also deducts additional tax amount from her registered credit card. From quality attribute perspective, this application improves**  
Select one:  
performance  
availability  
**usability**{correct}  
interoperability  
  
**6.Authorizing the user is a ........**  
**Select one:**  
Availability tactic  
**Security tactic**{correct}  
Performance tactic  
Usability tactic  
  
**7.Denial of Service attack affects the availability of the system.**  
Select one:  
**True**{correct}  
False  
  
**8.Which of the following is not a performance tactic?**  
Select one:  
Resource Demand  
**Resource Monitor** {correct}  
Resource Arbitration  
Resource Management  
  
**9.Module B calls an API of A using a remote method invocation. What is the dependency that is eliminated in this case?**  
Select one:  
type of data returned by A  
**location of A** {correct}  
sequence of data generated by A  
quality of data created by A  
  
**10.A module B expects A to write the count of total transactions handled at a particular memory location. The dependency of B on A is of**  
Select one:  
Location dependency  
Data type dependency  
**Data semantics dependency**{correct}  
Sequence dependency  
  
**11.Adding an intermediate component between two interacting modules in an application will improve the Select one:**  
Availability of the System  
Reliability of the System  
Security of the System  
**Modifiability of the System**{correct}  
  
**12.The architect designs the allocation of services to hosts so that only limited services are available on each host. It will help to improve**  
Select one:  
Modifiability of the System  
Reliability of the System  
Availability of the System  
**Security of the System**{correct}  
  
**13.There is a monitor that records the status of the system during runtime. This is an example of**  
**Select one:**  
Security tactic  
Testability tactic  
Modifiability tactic  
**Availability tactic**{correct}  
  
**14.A software system crashed 100 times in the first year of its service and each time it crashes it needs 10 minutes to restart it. What is the average reliability of the system in hours?**  
Select one:  
**88 Hours**(Approx){correct}  
108 Hours (Approx)  
146 Hours (Approx)  
128 Hours (Approx)  
  
**15.There are several modules that calls a service provided by A. What is the implicit dependency on A?**  
Select one:  
Quality of service provided by A  
Semantics of the result generated by A  
**The assumption that A exists when calling the service of A**{correct}  
the fact that A shares the same memory location of these calling modules  
  
**16.In a GUI application, when a user presses a button an action event is generated. What is action event in a general quality scenario?**  
Select one:  
Response  
**Stimulus**{correct}  
Source  
Artifact  
  
**17.Reduction of coupling between modules is a tactic for**  
Select one or more:  
Availability tactic  
**Testability tactic**{correct}  
**Modifiability tactic**{correct}  
Security tactic  
  
**18.Checkpointing and rollback of a system is a**  
Select one or more:  
Performance tactic  
***Security tactic {correct}***  
Usability tactic  
**Availability tactic** {correct}  
  
**19.A real-time system needs to be stopped 5 times a day due to massive data-collection that requires cleaning and backup. The system needs to be restarted after 10 minutes interval each time. What is % availability of the system in a day?**  
Select one:  
99% (Approx)  
100% (Approx)  
98% (Approx)  
**97% (Approx)**{correct}  
  
  
**20.The constituent parts of the architecture of a system are**  
Select one:  
its classes, concurrency and the rules governing their interactions  
its connectors, concurrency and the rules governing their interactions  
its classes, connectors and the rules governing their interactions  
**its components, connectors and the rules governing their interactions**{correct}  
  
**21.A camera based sensor continuously tracks the position of a moving object and sends the position to a robot management software. The robot management software triggers the action only if the difference between the received position data and the most recently registered data is > a threshold. The dependency on the sensor module can be best described as**  
Select one:  
location of the sensor module  
semantics of the position data  
sequence of the streamed position data  
**data quality dependency{correct}**  
  
**22.A malware periodically scrapes certain portion of the memory used by a point-of-sale software which temporarily stores credit card in memory. The malware exploits**  
Select one:  
sequence of data written by the software  
**resource behavior of the software**{correct}  
published API of the software to read credit card  
location of the software