Sample Exam-2

ISTQB Foundation Level Performance Tester

Answers

Question	Answer	Explanation / Rationale	Learning Objective (LO)	# of Points
1	B	B is correct. Reproducible results is a key factor in performance test execution. The results should be statistically identical when run on the same unchanged system. A is not correct because tests are sometimes quite complex to create. C is not correct because tests generally should not be run in the actual production environment, but rather a representative equivalent. D is not correct because the test results may show that the system does not meet expectations.	PTFL-1.1.1 K2	1
2	D	D is correct. This is a description of spike testing. A is a description of load testing. B is a description of stress testing. C is a description of scalability testing.	PTFL-1.2.1 K2	1
3	A	A is correct. This is a description of load testing. B is a description of stress testing. C is a description of scalability testing. D is a description of spike testing.	PTFL-1.2.1 K2	1
4	D	D is correct. While this can occur at any time, it should start with unit testing. A is not correct because this occurs at system or SIT. B is not correct because this occurs during SIT. C is not correct because this is done during integration testing	PTFL-1.3.1 K1	1
5	C	C is correct. Testing through the API makes the most sense when the UI is likely to change, but the full communication to and from the UI must be tested. A is not correct because this is crowd testing and these testers would be using the real UI. B is not correct because the communications protocol level is one level below the API level. D is not correct because many test instances can be created with API testing.	PTFL-1.4.1 K2	1
6	D	D is correct. With a memory leak, response time will degrade over time (the time length is unknown though until you test it). A is an indication of underlying performance issues such as bad design, under-powered hardware, network latency, etc. B is an indication of resource pool or queue or stack issues as well as invalid timeout settings. C is an indication that some of the resources may become saturated, but only at high loads	PTFL-1.5.1 K2	1
7	A	A is correct. A high latency means that there are delays occurring in the network which may be due to inadequate bandwidth. B is not true because low latency is a good thing. C is not true because this is trackable with the right tools. D is not true because if there is variability, that needs to be understood as part of the performance tests.	PTFL-2.1.1 K2	1

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8	A	A is correct. Aggregated results help to provide the big picture and to observe consistent trends. Aggregating the results helps to identify and understand the importance of outliers and to know which ones are interesting vs just test aberrations. B is not correct because aggregated results will eliminate the information on the outliers. C is not correct because aggregation allows you to see the big picture rather than focusing on the individual results which may be due to transient system noise. It is unlikely to ever reach the point where "all" variations are understood. D is not correct because this type of reporting will be too difficult for stakeholders to understand and may focus on the highly unlikely situations.	PTFL-2.2.1 K2	1
9	C	C is correct. The log analysis tools scan the server logs for particular error types (high usage, memory errors, etc.) and report on those. A is not correct as these are general system monitoring tools. B is not correct as these are performance testing tools. D is not correct because the performance test results aren't written to the logs, rather the system activities during the performance tests are written to the logs.	PTFL-2.3.1 K2	1
10	C	C is correct. This is a description of a failure that has resulted from a spike test. A is not correct as this is a result of an endurance test. B is not correct because this is an example of resource degradation over time. D is not correct because this is the result of a scalability test.	PTFL-2.4.1 K1	1
11	A	A is correct. Risk identification and analysis is done at the test planning stage. This information is then used for the analysis and design of the tests. B, C and D are incorrect because this is too late in the process.	PTFL-3.1.1 K2	1
12	C	C is correct. This should occur during the test implementation activities. A and B are incorrect because this is when the test cases are planned and designed. D is incorrect because this is too late.	PTFL-3.1.1 K2	1
13	B	B is correct according to the syllabus. Mobile application and embedded real-time systems are particularly prone to connectivity issues particularly when embedded software is used in the IoT devices. In addition, connectivity issues can occur between client and server in Client-Server systems. A and D are incorrect because these environments are not prone to connection dropping. C is incorrect because other than #7, the other environments are not prone to connection dropping.	PTFL-3.2.1 K2	1
14	D	D is correct. The virtualized systems use shared resources across different applications, including	PTFL-3.2.1	1

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		memory. The dynamic/cloud-based environment are designed to dynamically scale, so while memory leaks may occur, they are less of a risk because the environment will scale to compensate. Client-Server systems are prone to memory leaks, particularly since a lot of this code is written in C and C++. Mobile applications are prone to leakage and are particularly at risk due to the limited available memory. The same is true of the embedded real-time systems (and these also tend to be written in languages that have less protection against leaks). Mainframes tend to run older code, often written in the higher-level languages that provide their own memory management.	K2	
15	A	A is correct. C and C++ require the programmer to do their own memory management which sometimes results in memory leaks (where memory is allocated, but not de-allocated). B, C and D would have the same issues regardless of the language used.	PTFL-3.2.1 K2	1
16	D	D is correct. Since performance is critical, the risks must be analyzed as early as possible and then repeatedly as the system is assembled since risks may change both in impact and likelihood. A is not correct because it ignores looking at the risks during development. B is not correct because it leaves out the requirements and development and at the completion of development. C is not correct because it leaves out the requirements and development options for analysis.	PTFL-3.3.1 K4	1
17	C	C is correct. The best way to do the testing is to first do a technical analysis because this can be done at the design time. Once implemented, full testing will be needed to verify that the solution does indeed deliver the performance required. A is not correct because this leaves out the static testing. B is not correct because this would bypass any issues that might occur at the UI end and doesn't consider the database loading. D is not correct because the network is less likely an issue regarding the data handling for such a large amount of data.	PTFL-3.4.1 K4	1
18	B	B is correct. Scalability is a technical objective for performance. A is not correct because this is a user-based objective. C is not correct because this is also a user-based objective and not a very clear one at that. D is not correct because this is primarily a robustness test rather than a performance test.	PTFL-4.1.1 K4	1
19	A	A is correct. Because data retrieval time is critical to the project, you need to know who can access that data (so you can get the user profiles created), what data they will access (so you can be sure you have the	PTFL-4.1.2 K4	1

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		right data available) and how often will they access it (so you can set up an operational profile). B is not correct because this is more related to security than performance testing and is not the most critical performance objective. C is not correct because the data storage may be something to investigate if the data retrieval proves slow, but we don't need to know it to conduct the tests. D is not correct because that is after retrieval and the scenario just discusses presenting the information to the requestor.		5
20	B	B is correct. This is information that should be conveyed to the business stakeholders. A is not correct because this is information that should be shared with the technical stakeholders. C is not correct because it is incomplete. If testing will be conducted in production, mitigation plans must also be made so that any impact to production is understood. D is not correct because this is a list of risks but doesn't include a list of how the tests will help mitigate these risks.	PTFL-4.1.3 K4	1
21	A	A is correct. This is information that should be conveyed to the technical stakeholders because it shows how the tests will be conducted. B is not correct because this is information that should be shared with the business stakeholders. C is not correct because it is incomplete. If testing will be conducted in production, mitigation plans must also be made so that any impact to production is understood. D is not correct because this is a list of risks but doesn't include a list of how the tests will help mitigate these risks.	PTFL-4.1.3 K4	1
22	B	B is correct. This is an example of a web protocol. A is an example of a database protocol. C is an example of a web service protocol. D is an example of a network protocol.	PTFL-4.2.1 K2	1
23	A	A is correct. This is an example of a database protocol. B is an example of a web protocol. C is an example of a web service protocol. D is an example of a network protocol.	PTFL-4.2.1 K2	1
24	B	B is correct. This is referred to as think time. A, C and D are incorrect.	PTFL-4.2.2 K2	1
25	B	B is correct. The discrete transactions can be nested together to provide response information for a series of transactions that would normally be performed together while still allowing measurement of the discrete transactions as well. A is not correct because parent and child transactions may not accomplish anything meaningful in terms of system usage. C is not correct because it will not affect the reporting time, particularly	PTFL-4.2.2 K2	1

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		if the discrete transactions are tracked as well. It may increase reporting time. D is not correct because this has nothing to do with bypassing network communications.		
26	B	B is correct. At this point, we need to know how many users of this type will be accessing the system. We know the concurrency because we can take the number of users and the accesses per shift to figure this out. A is not needed for this instance because we already have the information. C and D are considerations for setting up the load profile but not needed for the operational profile.	PTFL-4.2.3 K4	1
27	C	C is correct. See the calculations below. Total transactions should be 2500 doctors x 10 accesses x 6 record updates: 150,000 transactions per day. Hourly load: 7 hours of 500 doctors = 21,000 transactions 11 hours of 1000 doctors = 66,000 transactions 3 hours of 1500 doctors = 27,000 transactions 3 hours of 2000 doctors = 36,000 transactions Doctors per hour in 24 hour clock: 1:00 - 500 2:00 - 500 3:00 - 500 4:00 - 500 5:00 - 500 6:00 - 500 7:00 - 1000 8:00 - 1000 9:00 – 1000 10:00 - 1000 11:00 - 1000 12:00 - 1000 13:00 - 1000 14:00 - 2000 15:00 - 2000 16:00 - 2000 17:00 - 1000 18:00 - 1000 19:00 - 1000 20:00 - 1000 21:00 - 1500 22:00 - 1500 23:00 - 1500 24:00 – 500	PTFL-4.2.4 K4	1

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28	B	B is correct. The highest concurrent usage is when 2000 doctors are working from 2:00-5:00 in the afternoon. Each doctor has only one access per hour according to the question and that access has up to 6 updates. A, C and D are incorrect.	PTFL-4.2.5 K4	1
29	C	C is correct. This is a scalable method because it bypasses the UI so you can run many of these tests at the same time without requiring the client. A is not correct because this scripting can be quite difficult without using a tool to capture the protocol level communication. B is not correct because the UI is bypassed. D is not correct because data correlation is more difficult because the correlation done at the UI is bypassed.	PTFL-4.2.6 K2	1
30	D	D is correct. Scripts should contain their own checks that the process has worked and verifying via the database directly is a more efficient way to do it (and more maintainable) than having the script do the verification through the application (which may also be wrong) as this adds to the maintenance requirements of the script. A is not correct because no errors doesn't mean that it worked – it could just mean that the error handling is also broken. B is not correct because this could be a very time-consuming approach. C is not correct because the application may have a defect that causes it to not find the new users.	PTFL-4.2.6 K2	1
31	A	A is correct. The problem is most likely with the system identifier that is given to that particular user when they login. When they try to do another transaction, that unique identifier needs to be passed to the system so it can provide access to the transaction. B is not correct because there is no indication that this is the problem. C is not correct because the question indicates that the doctor performs multiple lookups per access. D is not correct because if this were happening, it would log in as the previous user, not error out on the login.	PTFL-4.2.7 K3	1
32	C	C is correct. This is a symptom of caching and can be avoided by either varying the data or by clearing the cache. A is not correct and is highly unlikely as systems tend to get slower, not faster, unless there is a caching issue. B is not correct because it's not the user's information that is being re-used but rather the search results. D is not correct for the same reason.	PTFL-4.2.7 K3	1
33	A	A is correct. The less like production the performance testing system is, the less reliable are the results and this increases the risk of making incorrect assumptions. B is not correct. It could happen, but not necessarily. C is not correct because there is no reason to think the	PTFL-4.2.8 K2	1

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		results would be easier to understand with a different configuration. D is not correct because the project risk would actually be increased in this case.		
34	B	B is correct. A load generator, particularly if you are running multiples on one machine, may slow down enough that it is no longer maintaining the desired load on the system. A and C will not occur if the tool is configured properly. D is not an issue as the load generator is not usually used to generate the performance results – it just creates the load on the system so the performance tests can be conducted.	PTFL-4.2.8 K2	1
35	B	B is correct. The system must have started up and achieved a steady state for valid steady state performance metrics to be gathered. A is not correct because the goal of the ramp up to is to get the number of users to the point desired for the test, not to exceed that number. C is not correct because ramp up is increasing load, not decreasing it getting ready for shut down. D is not correct because this has nothing to do with ramp up and should be tested before any official tests are started.	PTFL-4.3.1 K2	1
36	C	C is correct. This is achieved with spike tests which force the system to transition between a low load to a high load in a short period of time.	PTFL-4.3.1 K2	1
37	C	C is correct, the requirement states that the response time "should" be less than 3 seconds, but industry states that the response time "should" be 3 seconds or less 90% of the time. Since this is safety critical we should understand if the "should" is a "must". A is incorrect because 100% compliance is not recommended as it is not realistically achievable. B is not correct because the goal has not been met 95% of the time. D is not correct because tuning to get to below 3 seconds 100% of the time will probably not be possible.	PTFL-4.4.1 K4	1
38	D	D is correct. This is what a load generator tool does. A is a network analysis tool. B might be a browser testing tool or might not exist. C is a monitoring tool.	PTFL-5.1.1 K2	1
39	A	A is correct. This is the description of a pay-as-you-go tool. These are often cloud-based tools but not all cloud-based tools are pay-as-you-go. B, C and D are not correct as these are not descriptions of pay-as-you-go tools.	PTFL-5.1.1 K2	1

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40	**C**	C is correct. At this point you know that your testers are able to code what is needed (which eliminates B and D). The project schedule is not really a factor because any tool will take time to acquire and integrate, but the developers can code in it, so that's the main schedule factor. What you need to know is can this tool simulate the necessary number of virtual users and, of course, how much will it cost.	PTFL-5.2.1 K4	1