Case Study: 1 Scenario 1 "Medical Domain"

You are working as a test manager in the medical domain leading a team of system testers. You are currently working on a major release of the product which gives customers many new features and resolves a number of problem reports from previous releases.

Question: 1

You are about to release a test progress report to a senior manager, who is not a test specialist. Which of the following topics should NOT be included in the test progress report? 1 credit

A. Product risks which have been mitigated and those which are outstanding.
B. Recommendations for taking controlling actions
C. Status compared against the started exit criteria
D. Detailed overview of the risk-based test approach being used to ensure the exit criteria to be achieved

Answer: D

Question: 2

Explain how the above mentioned report may differ from a report that you produce for the project manager, who is a test specialist Select TWO items from the following options that can be used to report to the project manager and would not be included in a report to senior management. 1 credit

A. Show details on effort spent
B. List of all outstanding defects with their priority and severity
C. Give product risk status
D. Show trend analysis
E. State recommendations for release

Answer: A, B

Question: 3

Consider the typical objectives of testing. Which of the following metrics can be used to measure the effectiveness of the testing process in achieving one of those objectives? 1 credit

A. Average number of days between defect discovery and resolution

B. Percentage of requirements covered
C. Lines of code written per developer per day
D. Percentage of test effort spent on regression testing

Answer: B

Question: 4

You have been given responsibility for the non-functional testing of a safety-critical monitoring & diagnostics package in the medical are
a. Which of the following would you least expect to see addressed in the test plan? 1 credit
A. Availability
B. Safety
C. Portability
D. Reliability

Answer: C

Question: 5

Since the system is in the medical domain and therefore in the safety critical area, testing needs to be rigorous and evidence is required that the system has been adequately tested. Identify THREE measures that would typically be part of the test approach in this domain and which are not always applicable in other domains! 1 credit

A. High level of documentation
B. Failure Mode and Effect Analysis (FMEA) sessions
C. Traceability to requirements
D. Non-functional testing
E. Master test planning
F. Test design techniques
G. Reviews

Answer: A, B, C

Question: 6

A test log is one of the documents that need to be produced in this domain in order to provide evidence of testing. However, the level of detail of test logs can vary. Which of the following is NOT an influencing factor for the level of detail of the test logs being produced? 1 credit

A. Level of test execution automation

B. Test level
C. Regulatory requirements
D. Experience level of testers

Answer: D

Question: 7

Considerable attention will be given in this project to defining exit criteria and on reporting back on their status. Which combination of TWO exit criteria from the list would be best to use? 1 credit
I. Total number of defects found
II. Percentage of test cases executed
III. Total test effort planned versus total actual test effort spent
IV. Defect trend (number of defects found per test run over time

A. (i) and (ii)
B. (i) and (iv)
C. (ii) and (iii)
D. (ii) and (iv)

Answer: D

Case Study: 2, Scenario 2 "Reviews"

A software development organization wants to introduce some specific improvements to its test process. Currently, most of their testing resources are focussedon system testing. They are developing embedded software, and do not have a simulation environment to enable them to execute software modules on the development host. They have been advised that introducing inspections and reviews could be the most appropriate step forward.

Question: 1

Identify the THREE types of formal peer reviews that can be recognized. 1 credit

A. Inspection
B. Management review
C. Walkthrough
D. Audit
E. Technical review
F. Informal review

G. Assessment

Answer: A, C, E

Question: 2

As part of the improvement program, the organization is also looking at tool support. Which type of tool could be used to ensure higher quality of the code to be reviewed? 1 credit

A. Review tool
B. Test execution tool
C. Static analysis tool
D. Test design tool

Answer: C

Question: 3

What is the main reason why reviews are especially beneficial in the above-mentioned scenario? 2 credits

A. They ensure a common understanding of the product.
B. They find defects early.
C. They enhance project communication.
D. They can be performed without exercising the code.

Answer: D

Question: 4

The introduction of reviews and inspections has often failed as a process improvement action. Identify the THREE most important measures that should be taken to reduce the risk that this test process improvement will fail. 2 Credits (for 2 out of 3 correct 1 credit)

A. Process ownership and experienced moderators who drive the inspection process.
B. Management support
C. Training of those involved
D. The availability of stands and processes
E. Usage of a more traditional software development lifecycle
F. Alignment with software process improvement
G. Using a reference model, e.g. TMMi

Answer: A, B, C

Question: 5

IEEE 1028 also defines “management review” as a type of review. What is the main purpose of a management review? 1 credit

A. Align technical concepts during the design phase
B. Establish a common understanding of requirements
C. Provide independent evaluation of compliance to processes, regulations, standards etc.
D. To monitor progress, assess the status of a project, and make decisions about future actions

Answer: D

Question: 6

Which of the following is an example of testing as part of the requirements specification phase? 1 credit

A. A requirements review meeting
B. A business analyst eliciting requirements
C. Performing acceptance tests against requirements
D. A test report showing requirements coverage

Answer: A