

General

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Reviewer	Mette Bruhn-Pedersen / Hans Schäfer
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(Non-Scenario) Conventional MC (Type A) Question Description part

ID	CTFL LO- 3.3.2_Q1_K2
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Question (stem)	Which one of the following examples describes a typical benefit of static analysis supported by tools?
Correct Answer	A. Static analysis supported by tools may find defects prior to manual test execution.
Distracters	B. Static analysis supported by tools prevents business analysts and requirement engineers building software models (e.g. state transition diagrams), which do not match the requirements. C. By using static analysis tools user acceptance testing can be shortened because the users need to execute less tests. D. By performing static analysis of the code supported by tools the need for the developers doing unit testing is decreased.
Justification for Correct Answer	This is a best-answer question that requires a clear understanding of the difference between static and dynamic testing. A is correct because static tools can be used as soon as some code is available and even before tests created in a test driven development manner can be executed. Wrong is in B: static analysis does not prevent creating in wrong models; it can show defects in models. Wrong is in C: Static analysis does not ensure that all requirements implemented correctly, therefore user acceptance testing is still required. It may impact the time for user acceptance testing, due to fewer faults in the code affecting reliability, etc. Wrong is in D: Static testing does replace unit testing, because unit testing may also reveal errors in the business logic that static analysis may not find.
Partial Scoring	No
Syllabus Ref.	Reference 3.3 Static Analysis using Tools
Learning Objective	LO-3.3.2 Describe using examples the typical benefits of static analysis. (K2)
K-Level	<input checked="" type="checkbox"/> K2, <i>Understand</i> <input type="checkbox"/> K3, <i>Apply</i> <input type="checkbox"/> K4, <i>Analyse</i>
Reviewer Response	Rejected with comments. I think the question and options as such are good, only few comments, but I have troubles following the justifications for the wrong answers. Justification completely re-worked as well as some changes to the options. I used the term of static analysis supported by tools, instead of using static

analysis tools, because this is the way chapter 3.3 is written. We write there static analysis using tools, but I think .. supported by tools is better.