

(e) Ability to identify, formulate, and solve engineering problems

Outcome	4 Exemplary	3 Proficient	2 Apprentice	1 Novice
Applying concepts, governing math or physics equations and algorithms to solve a problem	Applies correct concepts, chooses correct governing equations and optimum algorithms (or methods) to solve a problem.	Applies correct concepts, chooses correct governing equations but use sub-optimum algorithms (or methods) to solve a problem.	Applies some correct concepts and chooses some correct governing equations but makes mistakes	Applies incorrect concepts and/or chooses incorrect governing equations → can not solve problems
Demonstrating effective open-ended problem solving techniques (including the debugging of a faulty design; hardware, software or both)	Always solves problems using step-by-step logical procedure and obtain correct solution	Mostly solves problems using step-by-step logical procedure. Sometimes he solves problems in an ad-hoc manner, but still he obtains correct solutions	Mostly solves problems using step-by-step logical procedure but some times makes minor procedural errors that lead to incorrect solution of the problem	Solves problems without logical step-by-step logical procedure and makes procedural errors resulting in incorrect solution