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Aspen DMC3®

Study Guide for Certification

Aspen Knowledge™ Learn. Apply. Succeed.

Exam Scope for Aspen DMC3

- ☐ Introduction
- ☐ Infrastructure
- ☐ APC Project
- ☐ Model Building
- ☐ Tuning
- ☐ Calculations
- ☐ Ramps
- ☐ Deployment

Grading

Grade	Weight
Multiple choice questions	40%
Lab task	60%
Total	100%

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Prove Your Credibility

Aspen Certified User in Aspen DMC3 demonstrates skills in: building the Finite Impulse Response (FIR) model using FIR and SubSpace Identification with step test data. This person also demonstrates fluency with some advanced skills in steady state and dynamic tunings for obtaining optimal performance of the controller.

Practice

Aspen recommends that you attend training through it's not required. Aspen also recommends that you attend Questions/Answer sessions before exam.

This guide contains 100% coverage of all objectives for the certification exam. You can use it as both a study tool and an on-the job reference (see pages 2-4).

Get Certified

In-person and remote testing are available. Please make sure that you select the correct Location/Time Zone.

After passing the exam you will receive an email to post your certificate and digital badge on social media, which is a cross-industry recognition of technical skills you may share on LinkedIn, as well as in your email signature. View the instructions on how to post your credentials on LinkedIn profile.

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
Introduction Infrastructure	What is APC	**Explain** what APC is and where it can be used
		Explain what APC offers
		Identify where APC applications fits in the plant information hierarchy
		Identify products in the Advanced Process Control Software family
	Review APC Concepts	**Identify** difference between independent and dependent variables
		Identify Unit response curve, TTS, Gain concepts
		Explain the difference between independent and dependent variables
		Explain DMCplus model properties
		Explain DMCplus controller properties
Infrastructure	Server Requirements for APC	**Explain** the purpose of the online, web and watch servers
		Identify PCWS access levels and variables limits
APC Project	Project Overview	**Explain** different stages of APC Project
		Explain step test methods
Model Building	Dataset	**Perform** importing of data
		Perform data slicing

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
Model Building	Finite Impulse Response	**Explain** Finite Impulse Response identification
		Perform FIR ID in DMC3 Builder
	Model Quality	**Analyze** results from cross correlation plots
		Analyze results from the frequency uncertainty
		Compute collinearity analysis and fix gain matrix
Model Building	Transformations	**Explain** why and when transformations are used
	Subspace	**Explain** SubSpace identification
Tuning	Prediction Module	**Explain** different filter options in DMC3 Builder
	Steady State Module	**Define** a feasible solution
		Explain how limit ranks affects the steady state solution
		Summarize the 2 stages of SSO (steady state optimization)
		Configure SS Cost in DMC3 Builder
		Describe how MV costs are derived
		Explain the difference between IRV and RTO External Targets
	Dynamic Module	**Explain** how move suppression affects the dynamic optimization

SCOPE	TECHNICAL CONTENT	COMPETENCY OBJECTIVE
Tuning	Dynamic Module	**Explain** how Dyn ECE affects the dynamic optimization
Calculations	Usability	**Explain** difference between input and output calculation
Ramps	Ramp techniques	**Define** the concept of an integrating variable

About Aspen Technology

Aspen Technology (AspenTech) is a leading software supplier for optimizing asset performance. Our products thrive in complex, industrial environments where it is critical to optimize the asset design, operation and maintenance lifecycle. AspenTech uniquely combines decades of process modeling expertise with machine learning. Our purpose-built software platform automates knowledge work and builds sustainable competitive advantage by delivering high returns over the entire asset lifecycle. As a result, companies in capital-intensive industries can maximize uptime and push the limits of performance, running their assets safer, greener, longer and faster. Visit AspenTech.com to find out more.