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Aspen GDOT™

Study Guide for Certification

Aspen Knowledge™ Learn. Apply. Succeed.

Exam Scope for Aspen GDOT

- ☐ Introduction
- ☐ Infrastructure
- ☐ Opt Objectives
- ☐ Modeling Technique
- ☐ Model Development
- ☐ GDOT Structure
- ☐ Non-Linear Dynamics Optimization
- ☐ Open Equation
- ☐ Model Templates
- ☐ Dynamic Data Reconciliation
- ☐ Model Diagnostic
- ☐ Project Deployment
- ☐ Webserver & Visualizer
- ☐ Mixed Integer Programming

Grading

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

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Prove Your Credibility

An Aspen GDOT Certified User has strong understanding of benefits, scope and how Aspen GDOT applications are integrated within the plant along with high level overview on steps required to build Aspen GDOT application. Passing this exam proves that you understand different components available with Aspen GDOT, build and maintain a basic Aspen GDOT application using Aspen GDOT offline tool.

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 2-5).

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	TEST OBJECTIVE
Introduction	What is GDOT	**Explain** what is GDOT and where does it fit in the operation of the plant
		Explain key characteristic of a GDOT application
		Identify type of models can be used in a GDOT application
		Identify some of the GDOT advantages
		Identify the execution interval of a GDOT application
	GDOT Components	**Describe** GDOT application components
Infrastructure	What are the server requirements for GDOT	**Explain** GDOT software architecture
Opt Objectives	Project Overview	**Identify** typical Objective of AC&O application
		Summarize factors that makes solution non-obvious
GDOT Refinery Application	Middle Distillate Cluster	**Use** the MD GDOT applications
	Naphtha Processing	**Use** the Naphtha processing applications
	Utility/Hydrogen system	**Use** the Utility/Hydrogen applications
GDOT Modeling Techniques	Open Equations with Intermediate Feedback	**Describe** the advantages of Open Equation Model
	Linear Dynamics Optimization (LDO)	**Identify** the form of the linear model used in GDOT
	GDOT Optimizer	**Identify** the object function in GDOT
	GDOT Offline Modeling	**Identify** the GDOT offline tool**s**
		Identify the GDOT add-ins
GDOT Model Development	Workflow	**Identify** the GDOT model development workflow
	GDOT Excel Template	**Identify** the available GDOT model templates
	Register GDOT applications	**Perform a** GDOT registration
	Use GDOT console	**Use** a GDOT console to start and monitor a GDOT application
	GDOT tunings	**Identify** various tunings for a GDOT application
	Input Validation	**Input** validation
	MVC status override	**Use** MVC status override
	Dynamics	**Enter** dynamic information for GDOT model

SCOPE	TECHNICAL CONTENT	TEST OBJECTIVE
GDOT Model Development	Transformations	**Explain** the need for transformation
GDOT Structure	Data Flow	**Identify** the data flow of the GDOT applications in a plant information system
	File Structure	**Explain** how GDOT engine uses various GDOT files
GDOT Non-Linear Dynamics Optimization (NLDO)	Sources of Non-Linearity	**Identify** sources of nonlinearity
	Transformation vs NL model	**Distinguish** between transformation and NL model
	Move Suppression	**Explain** the use for moving suppression in a GDOT application
	Model Update	**Perform** a model update
	GDOT processing cycle	**Identify** the GDOT processing cycle
Open Equaton (OE)	Data centric vs knowledge-based modeling	**Distinguish** between two approaches
	Gain Ratio	**Describe** the importance of gain ratios in a MIMO system
	Back-bones model	**Identify** the back-bones models
	Linking model sections (balance rows)	**Summarize** the advantages of balance rows
	Open model vs Convoluted closed model	**Identify** open model
Model Templates	Workflow	**Use** Excel to build a MD GDOT application
	Multi-Draw Fractionator	**Perform** CDU configuration
	Blender	**Perform** Blender configuration
	HydroTreater	**Perform** Hydrotreater configuration
Dynamic Data Reconciliation (DR)	What is DR	**Recognize** the need for DR
	Objective Function for DR	**Identify** the object function for DR
	Dynamics in DR	**Recognize** the use of Dynamics in DR
	Purpose of DR	**Identify** the purpose for a DR
Model Diagnostic	Purpose of Model Diagnostic	**Identify** the purpose of Model Diagnostic
GDOT Olefin Template	GDOT vs RTO&CLP	**Distinguish** between GDOT and RTO&CLP
	Workflow	**Identify** the GDOT olefin workflow
	Olefin Templates	**Identify** available models in the GDOT Olefin model template
GDOT Project Deployment	Project Execution plan	**Identify components of** the project execution plan
	Benefits	**Identify** sources of benefits

SCOPE	TECHNICAL CONTENT	TEST OBJECTIVE
GDOT Project Deployment	Requirements	**Identify** the requirements for a successful
	Model Development	**Explain** the steps for model development
	Commissioning	**Recognize** the needs for close communication with planning and scheduling
Web Server & Visualizer	Components	**Identify** various GDOT web components
	Console vs Visualizer	**Distinguish** between GDOT console vs GDOT Web Visualizer
Mixed Integer Programming	Spare Capacity	**Explain** the use of spare capacity
	Binary Variables	**Explain** the binary variables in a MIP GDOT application

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.