SAS A00-407

SAS VIYA FORECASTING AND OPTIMIZATION CERTIFICATION QUESTIONS & ANSWERS

Exam Summary – Syllabus – Questions

A00-407

SAS Certified Specialist - Forecasting and Optimization Using SAS Viya
50 Questions Exam – 68% Cut Score – Duration of 90 minutes

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Know Your A00-407 Certification Well:

The A00-407 is best suitable for candidates who want to gain knowledge in the SAS Advanced Analytics. Before you start your A00-407 preparation you may struggle to get all the crucial SAS Viya Forecasting and Optimization materials like A00-407 syllabus, sample questions, study guide.

But don't worry the A00-407 PDF is here to help you prepare in a stress free manner.

The PDF is a combination of all your queries like-

- What is in the A00-407 syllabus?
- How many questions are there in the A00-407 exam?
- Which Practice test would help me to pass the A00-407 exam at the first attempt?

Passing the A00-407 exam makes you SAS Certified Specialist - Forecasting and Optimization Using SAS Viya. Having the SAS Viya Forecasting and Optimization certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

A00-407 SAS Viya Forecasting and Optimization Certification Details:

Exam Name	SAS Certified Specialist - Forecasting and Optimization Using SAS Viya
Exam Code	A00-407
Exam Duration	90 minutes
Exam Questions	50
Passing Score	68%
Exam Price	$180 (USD)
Books	**Forecasting Using Model Studio in SAS Viya Optimization Concepts for Data Science and Artificial Intelligence**
Exam Registration	**Pearson VUE**
Sample Questions	**SAS Viya Forecasting and Optimization Certification Sample Question**
Practice Exam	**SAS Viya Forecasting and Optimization Certification Practice Exam**

A00-407 Syllabus:

Objective	Details
Data Visualization (15% - 20%)	
Create project and load data	- Create a Forecasting project (define variable roles) - Load data from various sources - Use Data tab functionality
Visualize data using attribute variables	- Load Attributes table - Identify scenarios in which attribute variable are useful in visualizing data - Create a Visualization using Attribute Variables
Pipeline Modeling (25% - 30%)	
Model using a pipeline	- Auto-forecast using a pipeline - Build and run a custom pipeline - Given a scenario select and use appropriate pipeline template - Visualize the forecasts
Determine the champion models	- Compare models within a pipeline - Recognize and interpret the model family of the champion model - Define the role of accuracy statistics in pipeline comparison - Select the champion model for the project - Explore the champion model
Judge model accuracy using accuracy statistics	- Define and calculate MAPE, MAE, RMSE Adaptive learning - Given a scenario determine when is best appropriate to use MAPE, MAE or RMSE - Use a holdout sample to do honest assessment
Hierarchical Forecasting (15% - 20%)	
Generate a forecast using data with a hierarchical structure	- Generate a hierarchical forecast with default functionality - Improve the fit of a forecast by adding combined models - Share a model using The Exchange - Visualize the forecast models for a given level of the hierarchy
Use Time Series data creation options	- Explain the differences between data accumulation and data aggregation - Given a scenario select the appropriate accumulation or aggregation options

Objective	Details
Implement a hierarchical model or combined model	- Given a scenario select the appropriate reconciliation method for a hierarchical model - Generate a combined model

Post-Forecasting Functionality (10% - 15%)

Implement an override on a forecast in SAS Model Studio	- Apply an override to a forecast - Resolve an override conflict - Use attribute variable to set an override - Disseminate tables containing the results of a forecast (manually vs. automatically)
Export a forecast	- Prepare exported data set for use in SAS Visual Analytics

Optimization (25% - 30%)

Optimize using Linear Programming	- Explain local properties of functions that are used to solve mathematical optimization problems - Use the OPTMODEL procedure to enter and solve simple linear programming problems - Formulate linear programming problems using index sets of arrays of decision variables, families of constraints, and values stored in parameter arrays - Modify a linear programming problem (changing bounds or coefficients, fixing variables, adding variables or constraints) within the OPTMODEL procedure
Optimize using Nonlinear Programming	- Use the OPTMODEL procedure to enter and solve simple nonlinear programming problems - Describe how, conceptually and geometrically, iterative improvement algorithms solve nonlinear programming problems - Identify the optimality conditions for nonlinear programming problems - Solve nonlinear programming problems using OPTMODEL procedure - Interpret information written to the SAS log during the solution of a nonlinear programming problem - Differentiate between the NLP algorithms and how solver options influence the NLP algorithms
Optimize using Mixed Integer Linear Programming	- Use the OPTMODEL procedure to enter and solve simple MILP problems - Identify the optimality conditions for MILP problems - Solve MILP programming problems using the OPTMODEL procedure

SAS A00-407 Sample Questions:

Question: 1

Which sampling method is preferred for forecasting holdout assessment?

a) Draw simple random sample without replacement of about 25% of the series.
b) Draw simple random sample with replacement of about 50% of the series.
c) Sample first observations in the series, with at least four observations in the holdout data.
d) Sample last observations in the holdout data, with at least 4 observations in the fit data.

Answer: d

Question: 2

Weighted performance measures like WAPE (weighted absolute percent error) are primarily useful for which task in a Model Studio forecasting project?

a) summarizing model performance for selecting a Champion pipeline for the project
b) correcting the bias found in unweighted performance measures in the process of selecting a champion pipeline for the project
c) selecting the champion model for an individual series in a pipeline for a project
d) choosing which series require overrides prior to choosing the champion pipeline for the project

Answer: a

Question: 3

The number of Lagrangian multipliers (dual values) in a given linear programming problem is equal to the number of what?

a) decision variables
b) objective functions
c) index sets
d) constraints

Answer: d

Question: 4

Which scenario can generate an Override conflict?

a) Underlying series with very different scales.
b) Two or more Overrides on a given series.
c) A log transformation of the statistical forecasts.
d) Two adjacent series that don't nest within the data hierarchy.

Answer: b

Question: 5

Attribute variables are primarily useful to do what in a Model Studio Forecasting project?

a) Visualize the data and operate on generated forecasts outside the hierarchy defined by the project's BY variables.
b) Define the project's data hierarchy, and visualize the level data contained in the attribute variable.
c) Visualize the project's data hierarchy, and operate on generated forecasts inside the hierarchy.
d) Augment the project's BY variables to define the data hierarchy for modeling and overrides.

Answer: a

Question: 6

Which situation will result in an override conflict in SAS Visual Forecasting?

a) Two or more overrides cannot be reconciled for the same time period.
b) An override affects a combined model forecast.
c) An override is applied to an aggregated forecast, and one or more components of the aggregated forecast come from models having events or independent variables.
d) Two or more overrides exceed 100% APE.

Answer: a

Question: 7

Which is an example of time series forecasting?

a) A dried fruit company sends out marketing postcards and models who will respond.
b) A glue manufacturer wants to know how long it will take for its glue to dry.
c) A fire department wants to know how many fires it will likely need to fight during the holidays, so that it can staff accordingly.
d) A hospital wants to know how long its patients will survive after open heart surgery so that adverse effects can be caught early.

Answer: c

Question: 8

A company's goal is to generate best forecasts. Their focus is widget sales for the next thirty days from the current time interval. Typically, what is the preferred accumulation method and time interval for the data?

a) Weekly average
b) Weekly total
c) Monthly average
d) Monthly total

Answer: d

Question: 9

Which elements are in the NEW set?

set FRUITS=/'Apple' 'Banana' 'Cherry'/;

set PIES=/'Apple' 'Pecan' 'Cherry'/;

set NEW = FRUITS symdiff PIES;

    a) Apple, Cherry
    b) Apple, Banana, Pecan, Cherry
    c) Banana, Pecan
    d) Apple, Apple, Banana, Pecan, Cherry, Cherry

Answer: c

Question: 10

An ARIMA model forecast for two months past the end of the current month for a monthly time series is an example of which action?

    a) Extrapolation
    b) Accumulation
    c) Aggregation
    d) Seasonal adjustment

Answer: a

Study Guide to Crack SAS Viya Forecasting and Optimization A00-407 Exam:

- Getting details of the A00-407 syllabus, is the first step of a study plan. This pdf is going to be of ultimate help. Completion of the syllabus is must to pass the A00-407 exam.

- Making a schedule is vital. A structured method of preparation leads to success. A candidate must plan his schedule and follow it rigorously to attain success.

- Joining the SAS provided training for A00-407 exam could be of much help. If there is specific training for the exam, you can discover it from the link above.

- Read from the A00-407 sample questions to gain your idea about the actual exam questions. In this PDF useful sample questions are provided to make your exam preparation easy.

- Practicing on A00-407 practice tests is must. Continuous practice will make you an expert in all syllabus areas.

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