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#1 Big Data & Analytics Certification Guide

A00-281 – SAS CLINICAL TRIALS PROGRAMMER - ACCELERATED VERSION CERTIFICATION QUESTIONS AND STUDY GUIDE

SAS Certified Clinical Trials Programmer Using SAS 9 - Accelerated Version (A00-281)

Contents

SAS Clinical Trials Programmer - Accelerated Version Certification Details

Exam Name	SAS Certified Clinical Trials Programmer Using SAS 9 - Accelerated Version
Exam Code	A00-281
Prerequisite	Candidate should be holding SAS Base Programmer for SAS 9 (A00-211) Credentials
Exam Questions	70 to 75 multiple-choice and short-answer questions
Duration	120
Passing Percentage	70%
Negative Marking	No Negative Marking
Partial Credit	No Partial Credit
Reference Book	Clinical Trials: A Practical Guide to Design, Analysis, and Reporting
Training	SAS Programming 1: Essentials SAS Programming 2: Data Manipulation Techniques SAS Macro Language 1: Essentials SAS Report Writing 1: Essentials Statistics 1: Introduction to ANOVA, Regression, and Logistic Regression
Schedule Your exam	Pearson VUE
Sample Questions	SAS Clinical Trials Programming - Accelerated Version Certification Sample Question
Recommended Practice tool	**SAS Clinical Trials Programming - Accelerated Version Certification Practice Exam**

SAS Clinical Trials Programmer - Accelerated Version Certification Syllabus for A00-281 (Study Aid)

CLINICAL TRIALS PROCESS

- Describe the clinical research process (phases, key roles, key organizations)
- Interpret a Statistical Analysis Plan
- Derive programming requirements from an SAP and an annotated Case Report Form
- Describe regulatory requirements (principles of 21 CFR Part 11, International Conference on Harmonization, Good Clinical Practices)

CLINICAL TRIALS DATA STRUCTURES

- Identify the classes of clinical trials data (demographic, lab, baseline, concomitant medication, etc)
- Identify key CDISC principals and terms
- Describe the structure and purpose of the CDISC SDTM data model
- Describe the structure and purpose of the CDISC ADaM data model
- Describe the contents and purpose of definexml

IMPORT AND EXPORT CLINICAL TRIALS DATA

- Apply regulatory requirements to exported SAS data sets (SAS V5 requirements)

MANAGE CLINICAL TRIALS DATA

- Access DICTIONARY Tables using the SQL procedure
- Examine and explore clinical trials input data (find outliers, missing vs zero values, etc)

TRANSFORM CLINICAL TRIALS DATA

- Apply categorization and windowing techniques to clinical trials data
- Transpose SAS data sets
- Apply 'observation carry forward' techniques to clinical trials data (LOCF, BOCF, WOCF)
- Calculate 'change from baseline' results
- Obtain counts of events in clinical trials

APPLY STATISTICAL PROCEDURES FOR CLINICAL TRIALS

- Use SAS procedures to obtain descriptive statistics for clinical trials data (FREQ, UNIVARIATE, MEANS, SUMMARY)
- Use PROC FREQ to obtain p-values for categorical data (2x2 and NxP test for association)

- Use PROC TTEST to obtain p-values for continuous data (one-sample, paired and two-sample t-tests)
- Create output data sets from statistical procedures

MACRO PROGRAMMING FOR CLINICAL TRIALS

- Create and use user-defined and automatic macro variables
- Automate programs by defining and calling macros
- Use system options to debug macros and display values of macro variables in the SAS log (MPRINT, SYMBOLGEN, MLOGIC, MACROGEN)

REPORT CLINICAL TRIALS RESULTS

- Use PROC REPORT to produce tables and listings for clinical trials reports
- Use ODS and global statements to produce and augment clinical trials reports

VALIDATE CLINICAL TRIAL DATA REPORTING

- Explain the principles of programming validation in the clinical trial industry
- Utilize the log file to validate clinical trial data reporting
- Use programming techniques to validate clinical trial data reporting (PROC COMPARE, MSGLEVEL)
- Identify and Resolve data, syntax and logic errors

SAS Clinical Trials Programmer - Accelerated Version Exam (A00-281) Sample Questions

- Below are the 10 sample questions which will help you be familiar with SAS Certified Clinical Trials Programmer Using SAS 9 - Accelerated Version (A00-281) exam style and Structure.

- These questions are just for demonstration purpose, there are many scenario based question are included in **Premium SAS Clinical Trials Programmer - Accelerated Version Practice Exam**

- Access to all 120+ questions is available only through premium practice exam available to members at www.analyticsexam .com

Question 1: A Treatment-Emergent Adverse Event (TEAE) is commonly defined as any event that occurs on or after the date and time of:

Options:

A. informed consent
B. baseline assessment
C. study enrollment
D. first dose of study drug

Question 2: Which function would be used to determine the number of elements in an existing array?

Options:

A. dim ()
B. n ()
C. sum ()
D. count ()

Question 3: The following SAS program is submitted:

```
%let member1=Demog;
%let member2=Adverse;
%let Root=member;
%let Suffix=2;
%put &&&Root&Suffix;
```

What is written to the SAS log?

Options:

A. &member2
B. Adverse
C. &&&Root&Suffix
D. WARNING: Apparent symbolic reference ROOT2 not resolved.

Question 4: What is the main focus of Good Clinical Practices (GCP)?

Options:

A. harmonized data collection
B. standard analysis practices
C. protection of subjects
D. standard monitoring practices

Question 5: Given the following data set WORK.DEMO:

PTID	Sex	Age	Height	Weight
689574	M	15	80.0	115.5
423698	F	14	65.5	90.0
758964	F	12	60.3	87.0
653347	F	14	62.8	98.5
493847	M	14	63.5	102.5
500029	M	12	57.3	83.0
513842	F	12	59.8	84.5
515151	F	15	62.5	112.5
522396	M	13	62.5	84.0
534787	M	12	59.0	99.5
875642	F	11	51.3	50.5
879653	F	15	75.3	105.0
542369	F	12	56.3	77.0
698754	F	11	50.5	70.0
656423	M	16	72.0	150.0
785412	M	12	67.8	121.0
785698	M	16	72.0	110.0
763284	M	11	57.5	85.0
968743	M	14	60.5	85.0
457826	M	18	74.0	165.0

The following SAS program is submitted:

```
proc print data=WORK.DEMO(firstobs=5 obs=10);
  where Sex='M';
run;
```

How many observations will be displayed?

Options

A. 4
B. 6
C. 7
D. 8

Question 6: Vital Signs are a component of which SDTM class?

Options:

A. Findings
B. Interventions
C. Events
D. Special Purpose

Question 7: You are using SAS software to create reports that will be output in a Rich Text Format so that it may be read by Microsoft Word. The report will span multiple pages and you want to display a '(Continued)' text at the end of each page when a table spans multiple pages.

Which statement can you add to the SAS program to ensure the inclusion of the '(Continued)' text?

Options:

A. ods rtf file='report.rtf';
B. ods tagsets.rtf file='report.rtf';
C. ods tagsets.rtf file='report.rtf' break='Continued';
D. ods file open='report.rtf' type=rtf break='(Continued)';

Question 8: What is the primary purpose of programming validation?

Options:

A. Ensure that the output from both the original program and the validation program match.
B. Efficiently ensure any logic errors are discovered early in the programming process.
C. Justify the means used to accomplish the outcome of a program and ensure its accurate representation of the original data.
D. Document all specifications pertaining to programmed output and ensure all were reviewed during the programming process.

Question 9: Which option in the PROC EXPORT procedure overwrites an existing file?

Options:

A. NEW
B. OVERWRITE
C. REPLACE
D. New

Question 10: Given the following partial data set:

```
SUBJID   SAF   ITT   OTH

 101     1     .     1
 103     1     1     1
 106     1     1     1
 107     1     .     1
```

The following SAS program is submitted:

```
proc format;
  value stdypfmt
       1="Safety"
       2="Intent-to-Treat"
       3="Other";
run;
data test;
  set temp (keep=SUBJID ITT SAF OTH );
  by subjid;
  length STDYPOP $200;
  array pop{*} SAF ITT OTH ;
  do i=1 to 3;
    if STDYPOP="" and pop{i}=1 then STDYPOP=put(i, stdypfmt.);
    else if STDYPOP^="" and pop{i}=1 then STDYPOP =
trim(STDYPOP)||"/"||put(i, stdypfmt.);
  end;
run;
```

What is the value of STDYPOP for SUBJID=107?
Options:

A. Safety/Othe
B. Safety
C. Other
D. Non of the above

Answers:

Question: 1	Answer:D	Question: 2	Answer:A
Question: 3	Answer:B	Question: 4	Answer:C
Question: 5	Answer:A	Question: 6	Answer:A
Question: 7	Answer:B	Question: 8	Answer:C
Question: 9	Answer:C	Question: 10	Answer:B