



Data Science Foundation (DSF) Syllabus and Assessment Overview

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Introduction

This document is intended to provide information to prospective Data Science Foundation (DSF) candidates and indeed anyone interested in the format and content of the DSF Examination.

It includes:

- Data Science Foundation (DSF) Examination Overview – general information and overview of the exam format
- Data Science Foundation (DSF) Syllabus for Candidates – detailing:
 - o the format of the exam and the learning outcomes from the delegates’ course of study that will be assessed in each section
 - o the specific criteria by which each learning outcome is assessed

Data Science Foundation Examination Overview

Pre-requisite qualifications: Candidates pursuing this examination needn’t hold any prerequisites.

Training: Though formal training is not mandatory, attendance at Registered Education Partner (REP) course is strongly recommended.

Material permitted: The examination is ‘closed book’. No material permitted

Examination duration: 1 hour

Format: 40 Multiple Choice objective type questions, each question carries 1 mark. No Negative marking.

Pass mark: Candidates are expected to achieve a score of 60% (24 marks) or higher in order to pass the examination and be awarded certification.

Syllabus for Candidates

Exam Sections, Syllabus and Bloom's Index

Knowledge Area	Syllabus Details	Exam Weightage	Bloom's Index
KAG1-DSDA: Data Analytics group including Machine Learning, statistical methods, and Business Analytics	General Data Analytics and Machine Learning KAs, Machine learning and related methods Predictive analytics and predictive forecasting Classification methods Data mining and knowledge discovery Business intelligence covers data analysis that relies heavily on aggregation and different data sources and focusing on business information; Text analytics including statistical, linguistic, and structural techniques to analyse structured and unstructured data Statistical methods, including descriptive statistics, exploratory data analysis (EDA) and confirmatory data analysis (CDA)	20 Questions	2
KAG2-DSENG: Data Science Engineering group including Software and infrastructure engineering	Infrastructure and platforms for Data Science applications group: CCENG - Cloud Computing Engineering (infrastructure and services design, management and operation) CCAS - Cloud based applications and services development and deployment BDA – Big Data Analytics platforms (including cloud based) BDI - Big Data Infrastructure services and platforms, including data storage infrastructure Data and applications security KAs: SEC - Applications and data security SSM – Security services management, including compliance and certification	10 Questions	1
KAG3-DSDM: Data Management group including data curation, preservation and data infrastructure	General Data Management KA's Data Lifecycle Management Data archives/storage compliance and certification New KAs to support RDA recommendations and community data management models (Open Access, Open Data, etc.) 6 Data type registries, PIDs Data infrastructure and Data Factories	5 Questions	1
General Data Science	Current Trends in Data Science, Popular applications, applied Data Science examples.	5 Questions	1

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Bloom's Taxonomy Reference

Bloom's Learning Index	Description
1	Remembering: Recall or retrieve previous learned information.
2	Understanding: Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.
3	Applying: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.
4	Analysing: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.
5	Evaluating: Make judgments about the value of ideas or materials.
6	Creating: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.

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