This article provides a **National Final Stage** outline for the Huawei ICT Competition 2018-2019.

1. Huawei ICT Competition Stage Overview

Competition Stage	Exam type	Duration	Total Score
National Final Stage	Lab	180 min	1000

2. National Final Stage Outline

Exam Content：

Content	HCNA-Cloud HCNA-Cloud Service	HCNA-Big Data	HCNA-Storage	HCNA-AI
Ratio	45%	25%	20%	10%

The **National Final Stage** lab exam covers content:

Cloud Part:

1. Cloud Computing - FusionCompute Service Management:

1.1 Login and Functions of FusionCompute

1.2 FusionCompute Computing Resource Management

1.3 FusionCompute Storage Resource Management

1.4 FusionCompute Network Resource Management

1.5 FsuionCompute VM Provisioning and Management

2. Cloud Computing - FusionManager Service Management

2.1 Login and Functions of FusionManager

2.2 Main Tasks of the FusionManager Administrator

2.3 Main tasks of the FusionManager tenant

2.4 FusionManager uses the tenant view to deliver VMs.

3. Cloud Service - Compute

3.1 Basic knowledge, operation and management of Elastic Cloud Server

3.2 Basic knowledge, operation and management of Image Management Service

3.3 Basic knowledge, operation and management of Auto Scaling

4. Cloud Service - Storage

4.1 Basic knowledge, operation and management of Elastic Volume Service and Snapshot

4.2 Basic knowledge, operation and management of Volume Backup Service

4.3 Basic knowledge, operation and management of Object Storage Service

4.4 Basic knowledge, operation and management of Scalable File Service

5. Cloud Service - Network

5.1 Basic knowledge, operation and management of Virtual Private Cloud

5.2 Basic knowledge, operation and management of Elastic Load Balancer

5.3 Basic knowledge, operation and management of Security Group

5.4 An understanding of Direct Connect and Virtual Private Network

4. Cloud Service - Relational Database Service

4.1 Basic knowledge, operation and management of Relational Database Service

5. Cloud Service - Cloud Container Engine

5.1 Basic knowledge, operation and management of Cloud Container Engine

5.2 Basic knowledge, operation and management of docker and docker image

6. Cloud Service - Cloud Security,Cloud Eye and Workspace

6.1 An understanding of Cloud Security Service and its products

6.2 An understanding of Cloud Eye and the relation with other products

6.3 An understanding of Workspace

Big Data Part:

1. HDFS Distributed File System

1.1 Use of common commands

1.2 HDFS Trash

1.3 Space Quota

1.4 Backup and Recovery

2. Hive WareHouse

2.1 Building tables

2.2 Query

2.3 Toggle the spark engine

2.4 Hive Column Encryption

2.5 Merging Small Hive Files

2.6 Using Hue to Execute HQL

3. HBase DataBase

3.1 Create, read, update and delete

3.2 Creating a Table with Pre-Distributed Regions

4. Data Import and Export Using Loader

4.1 Data Import and Export Using Loader

Storage Part:

1. Install UltraPath software

1.1 Install UltraPath software

2. Basic configuration of storage

2.1 Basic configuration of storage(Disk Domain, Storage Pool, LUN, LUN Group)

2.2 Create host

2.3 Create Mapping View

2.4 Use storage resource

3. Configuration of SnapShot

3.1 Configuration of SnapShot

3.2 Verification of SnapShot

4. Configuration of SmartQos

4.1 Configuration of SmartQos

5. Configuration of LUN expand

5.1   Configuration of LUN expand

5.2   Configuration of host

6. Inspection of Storage

6.1 Install SmartKit software

6.2 Information collection and inspection

AI Part:

1. Python Foundation

Python version: 3.6

1.1 Basic knowledge of Python, such as Python lists, tuples, strings, dictionary definitions and operations.

1.2 Python's basic syntax such as conditional statements, loop statements and function definitions and operations.

1.3 Python object-oriented programming and regular operation.

2. TensorFlow Practice

2.1 Session operation of TensorFlow.

2.2 TensorBoard Visualization Display

2.3 Data reading and processing

2.4 Using TensorFlow to save and use the model

2.5 Linear regression instantiation

Recommended Knowledge

Cloud Computing

An understanding of general virtualization and cloud computing technologies.

An understanding of Huawei cloud computing hardware, function, architecture, and features.

Hands-on experience with Huawei cloud computing deployment and management.

Cloud Service

Hands-on experience using compute, network, storage, and database Cloud Services.

Hands-on experience with Huawei Cloud Service deployment and management.

Ability to identify and define high availability architecture for a Huawei Cloud based products.

Big Data

Hands-on experience with HDFS.

Hands-on experience with HBase build tables, queries, filters.

Hands-on experience with Loader.

Storage

An understanding of storage, such as latest Storage Technologies and trends,

operation of storage system, configuration and management of storage system.

Hands-on experience with configuration and management of storage system.

AI

An understanding of mathematical and other related knowledge (the basics of linear

algebra, the basics of probability and information theory, the role of numerical

calculations, and the classification and solution of optimization problems)

Hands-on experience with Python programming.

Hands-on experience with TensorFlow.

Note:

**The content mentioned in this article provides a general exam guide; the exam may
contain additional related content that is not included here.**

Self-learning Resources

Subject	Material
Cloud (HCNA)	Learning Material (HCNA-Cloud)
	Learning Material (HCNA-Cloud Service)
Big Data (HCNA)	Learning Material (HCNA-Big Data)
Storage (HCNA)	Learning Material(HCNA-Storage)
AI	Python Link Tensorflow Link