



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

1. Huawei ICT Skill Competition Stage Overview

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

2. National Final Stage Outline

Exam Content:

Content	HCNA-R&S	HCNP-R&S	HCNA-Security	HCNA-WLAN
Ratio	30%	20%	30%	20%

The **National Final Stage eNSP lab exam** covers knowledge:

Basic IP network connectivity

- 1). Ethernet and IP based data forwarding processes.
- 2). TCP/IP network protocols and data encapsulation.
- 3). TCP/IP supporting applications such as Ping, Trace and Telnet.
- 4). FTP and DHCP principles and configurations.

LAN Technologies

- 1). LAN switching operations.
- 2). Eth-Trunk: Link Aggregation application and configuration.
- 3). VLAN application and configuration.
- 4). STP/RSTP/MSTP switching behavior, application and configuration.
- 5). GARP/GVRP application and configuration.

WAN

- 1). PPP and PPPoE application and configuration.
- 2). Frame relay application and configuration.



Routing Technologies

- 1). Static and dynamic routing principles,
- 2). OSPF dynamic routing protocol function and implementation in VRP.
- 3). BGP protocol function and basic configuration.

High Reliability

- 1) VRRP principles and configurations.
- 2) BFD principles and configurations.

Network Management

- 1). SNMP configuration.

Firewall

- 1) Security zone and security policy.
- 2) NAT: Private network users accessing the Internet, Internet users accessing Intranet servers.
- 3). Firewall Dual-System Hot Backup configuration.

VPN

- 1). VPN basic principles, classifications and encryption technology.
- 2). L2TP VPN principles and configurations.
- 3). GRE VPN principles and configurations.
configurations.

WLAN Technologies

- 1) WLAN network and AP online configuration.
- 2) WLAN security configuration.



3) WLAN High reliability.

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
Routing and Switching (HCNA)	Learning Material (HCNA-R&S-Entry Training)
	Learning Material (HCNA-R&S-Intermediate Training)
Routing and Switching (HCNP)	Learning Material (HCNP-R&S-IESN Training)
	Learning Material (HCNP-R&S-IERN Training)
	Learning Material (HCNP-R&S-IENP Training)
Security (HCNA)	Learning Material(HCNA-Security-CBSN Training)
WLAN (HCNA)	Learning Material (HCNA-WLAN Training-IEBW Training)