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1. Overview

This document is the syllabus for the *H3C Large-Scale Network Routing Technology 2.0* course. It mainly introduces the examination content of the *H3C Large-Scale Network Routing Technology 2.0* course. This document is prepared by H3C University and is mainly used to guide the candidates who participate in the *H3C Large-Scale Network Routing Technology 2.0* course examination.

2. Examination Item Description

2.1 Examination Introduction

Participants

There are no special requirements for candidates in this examination. Any person who is not specifically prohibited by H3C can register for the examination directly.

Contents

The examination content includes but is not limited to the content covered by the *H3C Large-Scale Network Routing Technology 2.0* course. Most of examination knowledge comes from teaching materials and training, but individual topics may be beyond the scope of the teaching materials and training.

Examination Code

GB0-381

Duration

60 minutes

Number of Questions

50 single/multiple choice questions, judgment questions, and gap filling questions

Pass Score

The total score is 1000 points. A candidate is considered to pass the examination with at least 600 points.

2.2 Registration

This certification examination is conducted by the PROMETRIC Test Platform. If you want to take this certification examination, Visit PROMETRIC's official website (www.prometric.com) to inquire and contact the test center for registration.

3. Knowledge Points Distribution

The following describes the distribution of knowledge points in the GB0-381 examination.

Large-Scale Network Routing Overview

Enterprise network model: SOA-based network architecture, hierarchical network model, and H3C enterprise network architecture

Overview of large-scale network routing technology: L3 routing network models, reliability requirements, scalability requirements, manageability requirements, rapid network recovery requirements, and related technologies of the large-scale routing network

Routing Basics

Route control and forwarding: control plane and forwarding plane, and generation and function of the routing table, FIB table, and fast forwarding table

Routing protocol basics: classification of routing protocols, application and configurations of static routes, and classification and comparison of dynamic routing protocols; Principles and differences among the distance-vector, link-state, and path-vector routing protocols, and route selection principles

Load sharing and backup of route: principles of load balancing and backup of route, configuring floating static routes to implement route backup, implementation of load balancing and backup of dynamic route, and configuring dynamic route backup on dial-up links

Route aggregation and CIDR: functions of route aggregation, configuring static routes to achieve aggregation, principles and configurations of automatic aggregation in RIP, manual aggregation configuration in RIPv2, loop problems caused by aggregation and solutions, CIDR concepts and advantages

OSPF

Basic principles of OSPF: overview of OSPF and SPF algorithm; OSPF protocol hierarchy, area, and network type; principles of router ID election, establishment process of neighbors and adjacencies, OSPF protocol state machine, and synchronization and refresh of LSDB

Basic OSPF configurations: basic OSPF function configurations, router ID configurations, and single- and multi-area configuration instances; commands used to view OSPF neighbor information and routing information

OSPF optimization: OSPF network type configurations, DR election priority configurations, and OSPF neighbor configurations; configurations of OSPF link cost value and packet timer; configurations of default route introduction

Configurations of advanced OSPF features: OSPF area division, meaning and configurations of virtual connections; LSA types, functions and propagation scope of LSAs; route selection principles in OSPF, problems caused by the introduction of external routes, and solutions; special areas in OSPF and related configurations, OSPF route aggregation, and OSPF authentication configurations; several methods and related configurations for filtering OSPF routes

IS-IS

Basic concepts of IS-IS: origin and development of IS-IS, basic concepts, and terms; IS-IS hierarchical network, router roles, and similarities and differences between IS-IS and OSPF

Principles of the IS-IS protocol: overview of OSI address, NSAP address format, NET address in IS-IS and generation methods; IS-IS packet types, concepts and functions of CLV in packets; IS-IS network types, establishment process of related neighbors and adjacencies, concepts and functions of DIS, and synchronization of LSDBs; topology calculation in IS-IS and IP route generation

IS-IS configurations: basic IS-IS function configurations, router types and adjacency configurations, and link cost configurations; IS-IS single- and multi-area configuration instances, IS-IS verification and aggregation configurations, and route penetration configurations commands used to view basic IS-IS information, neighbor information, and routing information

IGP Route Control

Route filtering: functions and methods of route filtering, classification and application scenarios of route filtering tools; configuring silent interfaces to filter routes; address prefix list matching process and configurations; functions of Filter-policy, and configuring Filter-policy to filter IGP routes

Routing policy: functions of the routing policy; Route-policy composition, principles, and matching process; configuring Route-policy to control IGP routes

Route import: purposes and application scenarios of route import; route import planning, and application scenarios of unidirectional route import and bidirectional route import; problems caused by route import and solutions;
Configurations of route import in IGP

Policy-based Routing (PBR): purposes and application scenarios of PBR; basic PBR configurations and query methods

BGP-4

Basic principles of BGP: BGP origin, definition, and terms; BGP synchronization, messages and state machines, types and characteristics of BGP route attributes, BGP route processing flow, preferred route selection principles, and route advertisement policies

Basic BGP configuration: configurations of basic BGP functions, optimizations of BGP connections, BGP synchronization configurations, basic BGP configuration instances and maintenance

Controlling BGP routes: configuring basic BGP attributes to control BGP routes, and configurations and applications of preferred-value, LOCAL_PREF, MED, and next-hop-local; configuring the route-policy and AS path filtering list to control BGP routes

Configurations of BGP enhancement: concepts and problems of large-scale BGP networks; configuring BGP peer groups, BGP communities, BGP aggregation, BGP reflection and association, and BGP attenuation to solve large-scale BGP network problems; concepts and related applications of the multi-egress BGP network

BGP routing configurations: basic BGP configuration and cases of BGP route control using attributes

IPv6 Basics

IPv6 neighbor discovery: introduction to Neighbor Discovery Protocol, principles and processes of IPv6 address resolution, principles and processes of auto-configuration of IPv6 stateless addresses, and Neighbor Discovery Protocol configurations

IPv6 routing protocols: classification of IPv6 routing protocols; working principles and basic configurations of the RIPng protocol and OSPFv3 protocol

IPv6 transition technology: classification and functions of the IPv6 transition technology; types of IPv6 tunnel technologies, principles and configurations of 6to4 tunnels, and principles and configurations of ISATAP tunnels; principles, application scenarios, and configurations of the NAT-PT technology

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Note:

The information provided in this document is for reference only and H3C reserves the rights to adjust the questions, time, and scores without notifying candidates.

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