ŠPECIFIKÁCIA TEORETICKÝCH A PRAKTICKÝCH PREDPOKLADOV NÁRODNÉ KOLO SÚŤAŽE NAG 2009

Kategória HS3	Kategória UNI	Kategória PT
- Networking media - Media testing - Cable parameters - LAN, MAN, WAN; interfaces - Ethernet 10 Mb/s – 10G b/s - Ethernet switching - ISO OSI model - TCP/IP model - IPv4 routing and routing protocols - IPv4 addressing, subnets creating, usable IP addresses and network - TCP and UDP protocols, operations, port numbering, well-known port numbers - Basic router configuration (CLI, essential commands, console/telnet access, passwords) - Router loopback interfaces - CDP (Cisco Discovery Protocol) - Static and dynamic IP routing - Link state routing protocols - Distance vector routing protocols - Default route - Administrative distance, floating static routes - RIP (Routing Information Protocol) v1, configuration, load balancing, static routes integration, troubleshooting - RIP v2, features, configuration, load balancing, static routes integration. Troubleshooting - Single Area OSPF, terminology, BR/DBR election, configuration, authentication, static routes integration, verifying, troubleshooting - EIGRP, terminology, configuration, tables, static routes integration, verifying, troubleshooting, load balancing, variance - ICMP fundamentals - VLSM (Variable Length Subnet Masking) and route aggregation technique CIDR (Classless Inter-Domain Routing), aka "supernetting" - Switching concepts - Switching methods - Basic switch configuration - Switch password recovery - Switch port modes - Switch port security - VLAN (Virtual LANs), concepts, operations - Inter VLAN routing - VTP (Virtual Trunking Protocol), implementation and configuration - Redundant topologies, STP (Spanning Tree Protocol), operations - Router/switch troubleshooting - Private addressing	- Networking media - Media testing - Cable parameters - LAN, MAN, WAN; interfaces - Ethernet 10 Mb/s – 10G b/s - Ethernet switching - ISO OSI model - TCP/IP model - IPv4 routing and routing protocols - IPv4 addressing, subnets creating, usable IP addresses and network - TCP and UDP protocols, operations, port numbering, well-known port numbers - Basic router configuration (CLI, essential commands, console/telnet access, passwords) - Configuration register - Router password recovery - Configuration file backing up - Managing IOS image, upgrade - Troubleshooting IOS boot failure - Router loopback interfaces - CDP (Cisco Discovery Protocol) - Static and dynamic IP routing - Link state routing protocols - Distance vector routing protocols - Default route - Administrative distance, floating static routes - RIP (Routing Information Protocol) v1, configuration, load balancing, static routes integration, troubleshooting - RIP v2, features, configuration, load balancing, static routes integration. Troubleshooting - Single Area OSPF, terminology, BR/DBR election, configuration, authentication, static routes integration, verifying, troubleshooting - EIGRP, terminology, configuration, tables, static routes integration, verifying, troubleshooting, load balancing, variance - ICMP fundamentals - ACL (Access Control Lists), standard, extended, numbered; wildcard function, placing - VLSM (Variable Length Subnet Masking) and route aggregation technique CIDR (Classless Inter-Domain Routing), aka "supernetting" - Switching concepts - Switching methods - Basic switch configuration - Switch password recovery - Switch port modes - Switch port security - VLAN (Virtual LANs), concepts, operations - Inter VLAN routing - VTP (Virtual Trunking Protocol), implementation and configuration - Redundant topologies, STP (Spanning Tree Protocol), operations - Router/switch troubleshooting - Private addressing - NAT, PAT (Network/Port Address Translation), configuration, troubleshooting - DHCP (Dynamic Host Configuration Protocol), features, relay, configuration, operations, troubleshooting - PPP (Point-to-Point Protocol), architecture, authentication, configuration - SNMP (Simple Network Management Protocol), structure, operation - Syslog – configuration	- Networking media, cable testing - LAN, MAN, WAN, physical and logical topology - Ethernet (frames, CSMA/CD, technologies) - ISO OSI model, TCP/IP model - Basic knowledge of TCP and UDP protocols, basic TCP/IP services and port numbers - IP routing and routing protocols - IPv4 addressing, subnets creating, usable IP addresses and network - Basic IOS configuration (hostname, console and telnet access, passwords, command for manipulating with configuration...) - Router password recovery - IOS upgrade, config register - Basic router configuration (serial interfaces – DCE, DTE, BW, ethernet interfaces) - Router loopback interfaces - CDP (Cisco Discovery Protocol) - Concept of static and dynamic IP routing - Concept of link-state routing protocols - Concept of distance vector routing protocols - Default route - Administrative distance, metric (cost) - RIP (Routing Information Protocol), v1 and v2 - EIGRP (tables, metric, timers, successor and feasible successor, summarization, configuration and basic show and debug commands) - Single Area OSPF (tables, SPF, timers, configuration, basic show and debug commands) - ACL (Standard, extended and named Access Control Lists) - VLSM (Variable Length Subnet Masking) and route aggregation technique CIDR (Classless Inter-Domain Routing), aka "supernetting" - Ethernet switching concept and basic switch configuration - Switch port security - VLAN (Virtual LANs) - Inter VLAN routing - VTP (Virtual Trunking Protocol) - STP (Spanning Tree Protocol) - Packet Tracer Physical View - Packet Tracer WIFI configuration - Packet Tracer PDUs (Protocol Data Units)