Service Provider Routing and Switching Professional (JNCIP-SP)

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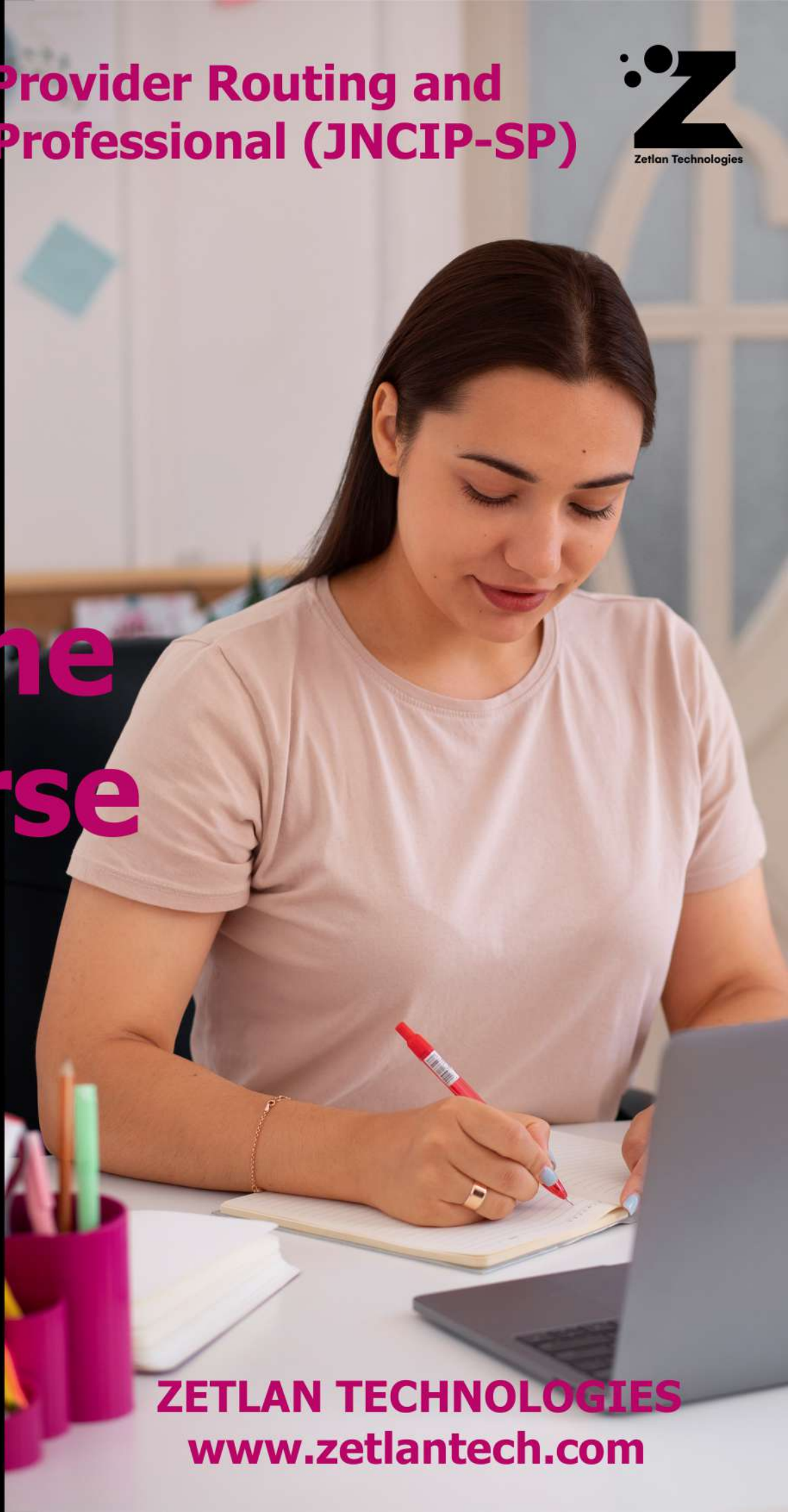

Online Course

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Course Modules

1. **Describe the concepts, operation of OSPFv2 & OSPFv3**
   - OSPF area types and operations
   - Link-state advrtsmnt (LSA) floodg through an OSPF multi-area
   - Designated router/backup designated router operation
   - Shortest-path-first (SPF) algorithm
   - Metrics, including external metric types
   - Summarize and restrict routes
   - Virtual links
   - OSPFv2 vs. OSPFv3

2. **Demonstrt knwlg of how to config single-area or multi-area OSPF**
   - Implement OSPF routing policy

3. **Describe the concepts, operation, or functionality of IS-IS**
   - IS-IS areas/levels and operations
   - Label-switched path (LSP) flooding through an IS-IS multi- area
   - Designated intermediate system (DIS) operation
   - SPF algorithm
   - Metrics, including wide metrics
   - Route summarization and route leaking

4. How to configure or monitor single-area or multi-area IS-IS

- Implement IS-IS routing policy

5. Describe the concepts, operation, or functionality of BGP

- BGP route selection process
- Next-hop resolution
- BGP attributes—concept and operation
- BGP communities
- Regular expressions
- Multipath
- Multihop
- Load balancing
- Advanced BGP options
- BGP route damping
- BGP flowspec
- Multiprotocol BGP

6. Describe the concepts, operation of BGP scaling mechanisms

- Route reflection

7. Demonstrate knowledge of how to configure or monitor BGP

- Implement BGP routing policy

8. Describe the concepts, operation, or functionality of Junos OS CoS

- CoS processing on Junos OS devices
- CoS header fields
- Forwarding classes
- Classification
- Packet loss priority
- Policers
- Schedulers
- Drop profiles
- Rewrite rules

9. Describe the concepts, operation, or functionality of IP multicast

- Components of IP multicast, including multicast addressing
- IP multicast traffic flow
- Any-source multicast (ASM) versus source-specific multicst (SSM)
- Reverse path forwarding (RPF)—concept and operation
- Internet Group Management Protocol (IGMP)
- Physical Interface Module (PIM) dense mode and sparse mode
- Rendezvous point (RP)—concept, operation, discovery, election
- Source-specific multicast (SSM)—requirements, benefits, etc.,
- Anycast rendezvous point (RP)

10. Describe the concepts, operation of Layer 3 VPNs

- Traffic flow—control and data planes
- Full mesh versus hub-and-spoke topology
- VPN-IPv4 addressing
- Route distinguishers
- Route targets
- Route distribution
- Site of origin
- Sham links
- Virtual routing and forwarding (VRF) table-label
- Next-generation multicast virtual private networks (MVPNs)
- Flow of control and data traffic in a MVPN
- Layer 3 VPN scaling
- IPv6 Layer 3 VPNs
- Layer 3 VPN Internet access options

11. Describe the concepts, operation of BGP Layer 2 VPNs

- Traffic flow—control and data planes
- Forwarding tables
- Connection mapping
- Layer 2 VPN network layer reachability information (NLRI)
- Route distinguishers
- Route targets
- Layer 2 VPN scaling

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12. Describe the concepts, operation of LDP Layer 2 circuits

- Traffic flow—control and data planes
- Virtual circuit label
- Autodiscovery (AD)
- Layer 2 interworking

13. Descrb the concepts, opertn of virtual private LAN service (VPLS)

- Traffic flow—control and data planes
- BGP VPLS label distribution
- LDP VPLS label distribution
- Route targets
- VPLS multihoming
- Site IDs

14. Describe the concepts, operation, or functionality of EVPN

- Traffic flow—control and data planes
- Media access control (MAC) learning and distribution
- Ethernet VPN (EVPN) multihoming
- BGP EVPN label distribution

15. Demonstrate knowledge of how to config, monitor Layer 2 VPNs

- BGP Layer 2 VPNs
- LDP Layer 2 circuits
- EVPNs
- VPLS

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