

Pokhara University

Level: Bachelors

Semester-Spring

Year: 2021

Programmer: B.E

Full Marks: 70

Course: Elective (IP Switching and Routing)

Pass Marks: 31.5

Time: 2 hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figure in the margin indicates full marks.

Group A : Attempt all the Questions (5 x 10 = 50)		Marks																
Q.No 1	Consider your own Network Topology and deploy Static and RIPv2 Routing Protocols.	10																
Q.No 2	Consider your own Network Topology consisting of 3 Routers and Switches interconnected with each other. Implement EIGRP Routing Protocol between all the Routers with ASN = 250.	10																
Q.No 3	Consider your own Topology consisting of 4 Routers and Switches interconnected with each other. Implement OSPF Routing Protocol between all the Routers.	10																
Q.No 4	Consider your own Network Topology. Design and Implement VLAN Technology. Your implementation should address Inter VLAN Routing and VTP	10																
Q.No 5	Consider your own Network Topology and Deploy Network Address Translations (NAT).	10																
Group B: Problem Solving/Case Studies (1 x 20 = 20)																		
Q. No 1	<p><i>You are appointed as Network Engineer of Buddha Airlines. Provide the solution to enable Site to Site IPSec VPN across Data Center Router R1 and Nepalgunj Airport Router R2 connected with NSP. Consider Internal Network of R1 as 172.15.X.0/24 and Internal Network of R2 as 172.16.X.0/24. Use VPN Policy given below. Where X = Roll No [From 1 to 255]</i></p> <table><tr><td>Encryption</td><td>AES-256</td></tr><tr><td>Hash</td><td>SHA</td></tr><tr><td>Authentication</td><td>Preshared</td></tr><tr><td>Diffe Hellman</td><td>Group 2</td></tr><tr><td>User Authentication</td><td>HMAC with SHA</td></tr><tr><td>IPSec Mode</td><td>ESP</td></tr><tr><td>Key</td><td>PU@#KEY123456</td></tr><tr><td>Crypto Map</td><td>VPNMAP</td></tr></table>	Encryption	AES-256	Hash	SHA	Authentication	Preshared	Diffe Hellman	Group 2	User Authentication	HMAC with SHA	IPSec Mode	ESP	Key	PU@#KEY123456	Crypto Map	VPNMAP	20
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The End