

KHULNA POLYTECHNIC INSTITUTE, KHULNA
SEMESTER PLAN

Semester : 7th (Computer Science & Technology)

Subject Name: Network Administration & Services

Subject Code: 28572

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3	3	4

Week	Class	Theory Content, Specific Object	Remarks
1	1	1.1 Define Network Administration 1.2 Mention the Key Components of Network Administration	
	2	1.3 Illustrate the role of network administrator 1.4 Describe Intranet, Extranet, Internet	
	3	1.5 Describe TCP/IP model 1.6 Define Data encapsulation of TCP/IP model. 1.7 Illustrate Network Hierarchical model – Two Tier, Three Tier, Spine Leaf	
2	1	2.1 Define Sub-netting 2.2 State Classless inter-domain routing (CIDR)	
	2	2.3 Define Variable length subnet mask (VLSMs)	
	3	2.4 Describe VLSM design and implementing VLSM Network	
3	1	2.5 State Summarization. 2.6 State the process of Sub-netting.	
	2	Class Test 1 (Unit 1 and Unit 2)	CT-1
	3	3.1 State the IP Services 3.2 Explain IP Routing in network.	
4	1	3.3 Discuss types of routing protocols. 3.4 Describe DNS service	
	2	3.7 Discuss SSH 4.1 Define Routing.	
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5	1	3.7 Discuss SSH 4.1 Define Routing.	
	2	4.2 Explain IP Routing in network. 4.3 Discuss types of routing protocols.	
	3	4.4 Describe OSPF terminology. 4.5 Define OSPF operation.	
6	1	5.1 Explain Workgroup & Domain Environment	
	2	5.2 Describe Active Directory Domain Service 5.3 Define group policy	
	3	5.4 Mention the types of group policy	

7	1	5.5 Explain the purpose of group policy	
	2	6.1 Define key security concepts(Threats, Vulnerabilities, Exploits and Mitigation Techniques)	
	3	6.2 Describe security program elements(User awareness, Training and Physical Access Control)	
8	1	6.3 Describe security password policies elements(Management, Complexity and Password alternatives)	
	2	6.4 Describe Virtual Private Network(VPN) 6.5 Mention the types of VPN 6.6 Explain each type of VPN	QUIZ-1
	3	6.7 Compare authentication, authorization and accounting(AAA) 6.8 Describe confidentiality, integrity and availability(CIA)	
9		MID TURM EXAM	
10	1	7.1 Define Spanning Tree Protocol 7.2 Describe Spanning Tree cost calculation 7.3 Define Spanning Tree port states	
	2	7.4 State Spanning Tree port fast 7.5 Define Rapid Spanning Tree 7.6 State Spanning Tree BPDU Guard 7.7 Define Spanning Tree BPDU Filter	
		7.8 Define Spanning Tree Root guard 7.9 State Ether-channel	
11	1	8.1 Define VLANs 8.2 State 802.1Q and ISL Encapsulation. 8.3 Define Trunk link	
	2	8.4 Describe Router on a Stick. 8.5 Describe Inter-VLAN routing by multilayer switch 8.6 State the VLAN Trunking protocol (VTP)	
		9.1 State Network Address Translator (NAT) 9.2 Explain the functions of NAT	
12	1	9.3 Classify Network Address Translator 9.4 Describe each type of Network Address Translator	
	2	10.1 State access control list (ACL). 10.2 Explain the functions of access control list	
	3	10.3 Classify the access control list 10.4 Explain each type of access control list	
13	1	11.1 Mention the benefits and uses of IPv6	C.T-2
	2	11.2 Define IPv6 addressing and expression 11.3 Describe how IPv6 works in an Inter-network.	
	3	11.4 State IPv6 Routing protocols (RIPng, EIGRP, OSPFv3).	
14	1	12.1 Define Link Redundancy 12.2 Mention the types of Link Redundancy	QUIZ-2
	2	12.3 Define Hot Standby Router Protocol (HSRP)	
	3	12.4 State Virtual Router Redundancy Protocol (VRRP)	
15	1	12.5 Describe Gateway Load Balancing Protocol (GLBP)	

	2	13.1 Explain how automation impacts in networking management	
	3	13.2 Compare traditional network & Controller based networking 13.3 Describe Software Defined Networking	
16	1	13.4 Discuss control plane and data plane 13.5 Discuss on northbound and southbound	
	2	13.6 Recognize the capabilities of configuration management mechanisms(Puppet, Chef and Ansible)	
	3	Review the course	

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Signature of Class Teacher