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Daffodil International University

Department of Computing and Information System (CIS)
Final Examination: Spring-2026
Program: B.Sc. in CIS
Course Code: COF101
Course Title: Computer Networks

Total Time: 1 hours **Total Marks: 40**

No.	Questions	Marks	CLO
Q.1	Codecell Limited has two departments, respectively HR Department and the Accounts Department, located in different parts of a building. Each department contains multiple PCs and both departments are connected through routers. The HR Department and Accounts Department use a centralised connection structure. The IT team wants dynamic routing between the networks using Open Shortest Path First (**OSPF**). • Design the network in Cisco Packet Tracer. • Assign proper IP addressing for both departments. • Identify the suitable topology for departments from the scenario. • Configure the OSPF protocol in the routers. • Test the configuration properly.	15	
Q.2	Codecell Limited's company network has been facing some connectivity and routing issues. Therefore, it is requested to **troubleshoot** the configuration and verify OSPF operation using appropriate CLI commands. • Verify OSPF neighbors • Show OSPF process information • Show all interface IP addresses • Display routing table • Enable OSPF debugging	10	
Q.3	A company operates with three separate departments: Sales, Human Resources, and Accounts, each located in different areas of the building. Every department consists of multiple PCs and other devices. To connect these departments, the organisation deploys two routers. Since the network is small and requires controlled traffic flow, the IT team decides not to use dynamic routing protocols. Instead, they want to implement **static** routing to manually define **all** communication paths between the networks. • Build the complete network in Cisco Packet Tracer. • Design and assign an appropriate IP addressing scheme for all three departments. • Interconnect all networks using two routers. • Configure static routes on both routers to ensure full inter-department communication. • Verify connectivity using ping tests between all departments.	15	