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| **King Saud University**  **College of Computer and Information Sciences**  **Computer Science Department** | | |  |
| **Course Code** | CSC 329 | |  |
| **Course Title** | Computer Networks | |
| **Section No.** |  | |
| **Semester** | Spring 24 | |
| **Exam** | Homework- Simulation application | |
| **Date** | 02nd  May | **Submission date** | 9th May 2024 |
| **Student Name** |  | | |
| **Student ID** |  | | |
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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Course Learning Outcomes** | | **Relevant question** | **Full mark** | **Student mark** | | **CLO 1** | **The ability to describe major networking terms, topologies, types, protocols, devices, and components.** | Q1 |  |  | | **CLO2** | **The ability to explain the main services, type of addressing, and protocols associated with each layer of the OSI model.** | NA |  |  | | **CLO 3** | **The ability to recognize signal types, characteristics, impairments, encoding methods, transmission media.** | Q2 & Q4 |  |  | | **CLO 4** | **The ability to recognize the functions and protocols of the data link layer (**framing, error control, flow control, medium access control.) | Q1, Q2, Q3 & Q4 |  |  | | **CLO 5** | **The ability to explain the functions and protocols of the network layer and to describe the different routing approaches:** ( datagram , VC , addressing, Routing). | NA |  |  | | **CLO 6** | **The ability to compare the features of network components and to measure and analyze the time performances of a network.** | Q3 |  |  | | | | |
| **Feedback/Comments:** | | | |

**Description of the required simulation using Packet Tracer**

1. Create with *packet tracer* a local network composed of

* One router.
* A switcher connected to the router.
* 4 Computers connected to the switcher.

1. Assign IP addresses to the different components of the network using the class A.
2. Verify the connectivity between the different computers and the router using the CMD command ping.
3. Add a DHCP server to the network and connected to the switcher.
4. Configure the server to assign dynamic IP addresses using the DHCP server.
5. Repeat the step #3.
6. Add a web server connected to the switcher.
7. Add a DNS server to declare the web server.
8. Document all these steps in a word file, convert it to PDF and submit it through LMS.

**The application will need to be demonstrated in a date that will be decided later .**