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**SE(6A) | 19F-0916**

Computer Network Lab

Lab 7: Subnetting of FLSM and VLSM

PROBLEM # 1 FLSM

Step 1: Used a Router

Graphical user interface, application

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Step 2: Used Switches

Chart

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Step 3: Used Computers as End Devices

Icon

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Step 4: Connect all the End Devices with Switches and then to Router.

Diagram

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Step 5: IP and Subnet Mask for 1st Network 85.0.0.0

Graphical user interface

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Step 6: IP and Subnet Mask for 2nd Network 85.0.64.0

Graphical user interface

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Step 7: IP and Subnet Mask for 3rd Network 85.0.128.0

Graphical user interface

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Step 8: IP and Subnet Mask for 4th Network 85.0.192.0

Graphical user interface, application

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Step 9: Configuration of 1st Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application, email

Description automatically generated

Step 10: Configuration of 2nd Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application, email

Description automatically generated

Step 11: Configuration of 3rd Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application, email

Description automatically generated

Step 12: Configuration of 4th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

Description automatically generated

Step 13: Configuration of 5th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application, email

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Step 14: Configuration of 6th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

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Step 15: Configuration of 7th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

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Step 16: Configuration of 8th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

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Step 17: Configuration of all Computers with IP Addresses and Subnet Masks with Default Gateway which is the IP Address of the Router for this Specific Network is Completed. Now Sending a Message from one Computer to another Computer, present on the other Network

Text

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Note: Screenshots are attached only for the 1st Question of Problem 1 for FLSM. The remaining 2 parts work the same as the 1st one that is why its screenshots are not attached here.

PROBLEM # 2 VLSM

Step 1: Used Routers

A picture containing application

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Step 2: Used Switches

Application

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Step 3: Used Computers as End Devices

Chart

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Step 4: Connect all the End Devices with Switches and then to Routers.

Diagram

Description automatically generated

Step 5: IP and Subnet Mask for 1st Network 19.0.0.0

Graphical user interface, application

Description automatically generated

Step 6: IP and Subnet Mask for 2nd Network 19.4.0.0

Graphical user interface, text, application

Description automatically generated

Step 7: IP and Subnet Mask for 3rd Network 19.6.0.0

Graphical user interface, application

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Step 8: IP and Subnet Mask for 4th Network 19.8.0.0

Graphical user interface

Description automatically generated

Step 9: Configuration of 1st Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

Description automatically generated

Step 10: Configuration of 2nd Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

Description automatically generated

Step 11: Configuration of 3rd Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application, email

Description automatically generated

Step 12: Configuration of 4th Computer with IP Address and Subnet Mask with Default Gateway which is the IP Address of the Router for this Specific Network.

Graphical user interface, application

Description automatically generated

Step 13: Setting up Router to add Serial Port in it for Communicating with another router, containing 2 networks.

Graphical user interface

Description automatically generated

Step 14: Setting up Router to add Serial Port in it for Communicating with another router, containing 2 networks.

Graphical user interface, text

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Step 15: Connect the First Router with the Second One to enable the Communication of the Router’s 1 Network to Router’s 2 Networks and vice versa.

Diagram

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Now we need to configure the Serial Ports of the First Router and Second Router hence a network will be built here representing a WAN network which helps in the communication of 2 Routers with each other.

Step 16: Configuration of Serial Port of First Router with 19.9.0.1 IP Address representing 19.9.0.0 Network specified for WAN Communication.

Graphical user interface, application

Description automatically generated

Step 17: Configuration of Serial Port of Second Router with 19.9.0.2 IP Address representing 19.9.0.0 Network specified for WAN Communication.

Graphical user interface, application

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Step 18: Configuration of Static Routing for the Communication Among Routers. This Screenshot represents the configuration of the first router with the first network of the second router.

Graphical user interface, application

Description automatically generated

Step 19: Configuration of Static Routing for the Communication Among Routers. This Screenshot represents the configuration of the first router with the second network of the second router.

Graphical user interface, text, application

Description automatically generated

Step 20: Configuration of Static Routing for the Communication Among Routers. This Screenshot represents the configuration of the second router with the first network of the first router.

Graphical user interface, application

Description automatically generated

Step 21: Configuration of Static Routing for the Communication Among Routers. This Screenshot represents the configuration of the second router with the second network of the first router.

Graphical user interface, application

Description automatically generated

Step 17: Configuration of all Computers with IP Addresses and Subnet Masks with Default Gateway which is the IP Address of the Router for this Specific Network is Completed. Now Sending a Message from one Computer to another Computer, present on the other Network

Chart

Description automatically generated with low confidence

Note: Screenshots are attached only for the 1st Question of Problem 2 for VLSM. The remaining 2 parts work the same as the 1st one that is why its screenshots are not attached here.