
CN 478 Management of Enterprise Networks Challenge Exam – Study Guide

Instructions:

This exam is designed to test your knowledge and understanding of the concepts outlined in the Regis CN 478 Management of Enterprise Networks course and your ability to apply these concepts to the real world.

The goal of this exam is to create a top-down design methodology of an enterprise network by using an existing company model or by creating a mythical company. Using the below topics in the exam overview create an enterprise network design using the top-down approach. **The APA format must be followed in creating this document.**

The Challenge Exam also has some tips on how to complete the exam. Remember that you have five days to complete this exam.

Exam Overview:

1. Describe the methodology for completing a top-down enterprise network design process
2. Analyze customers business goals, requirements, and constraints including the capability to run network applications to meet business objectives
3. Understand what are technical goals required in the top-down network design including scalability, availability, network performance, and others
4. List what is a baseline based on a customers legacy network, which include the above technical goals
5. Characterize network usage by describing characteristics of traffic flow between terminal/host, client/server/ and peer-to-peer networks
6. Understand what is Quality of Service (QOS)
7. Design a logical network model for all components using an IP addressing and numbering scheme.
8. Chose one routing protocol that provides the best scalability, adaptability, and flexibility, and describe its advantages over other routing protocols
9. Evaluate and select competing choices for a physical network using cabling for switches, routers, and other components
10. Document, test, and optimize a basic network

11. Identify and analyze network assets and risks to the assets by developing a basic security policy and plan
12. Analyze and apply the Return on Investment (ROI) method to determine the most cost-effective network
13. Review and list economic challenges that occur with change
14. Describe the impact of IP-PBX on a Voice over Internet Protocol (VOIP) network design including advantages over a legacy voice, data, and video network

Text:

It is highly recommended that the Oppenheimer text be used as a primary reference

Bibliography

Required Texts: Oppenheimer, P. (2010). *Top-Down Network Design* (3rd ed.). Indianapolis: Cisco Press ISBN 13: 978-1-58720-283-4 or ISBN-10: 1587202832.

Oppenheimer Text Companion Website, <http://www.topdownbook.com/>. The resources that you will be using can be found under the Content and Design Resources links.

American Psychological Association, (2010). *Publication Manual of the American Psychological Association* (6th ed.). Washington, D.C. American psychological Association. ISBN 1433805618, 979-1433805615, Companion Website: <http://www.apastyle.org>

Bibliography

Kurose, J. F. (2012). *Computer Networking: A Top-Down Approach, 6/E*. Boston, MA, USA: Pearson Addison Wesley.

Other Sources:

- Wikipedia & How Stuff Works

Link: <http://webtutorials.com>

Note: The above source is good for general information but may include biased information (written by a vendor)

Other Resources:

Access to Regis Library Resources for APA Citation, Annotated Bibliography, Books 24x7, and Critical Analysis of Research Papers.

Optional Materials:

Sherif, H. M. (2010). *Handbook of Enterprise Integration*. Indianapolis: Wiley. Access using Books 24x7.

Additional References:

- Regis Library
- Black Box.com
- Cisco.com
- Web Search on “Networking”
- <http://searchnetworking.techtarget.com/home>
- Search: Morley, D. (2009). *Understanding Computers: Today & Tomorrow*. Cengage Learning Inc: College of the Sequoias.
- **The OSI Model Animation 10:23**
- Link: <http://www.youtube.com/watch?NR=1&feature=endscreen&v=-6Uoku-M6oY>
- **The TCP/IP Model of Networking – 4:56**
- Link: <http://www.youtube.com/watch?v=tCRBa3fTR3A>