



POSTGRADUATE DIPLOMA
IN
STRATEGIC BUSINESS IT



**MODULE:
COMPUTER NETWORKING AND MANAGEMENT**

**ASSIGNMENT TITLE:
COMPUTER NETWORKING AND MANAGEMENT**

DECEMBER 2009

Important Notes:

- ❖ Please refer to the Assignment Presentation Requirements for advice on how to set out your assignment. These can be found on the NCC Education *Campus*. Scroll down the left hand side of the screen until you reach Personal Support. Click on this, and then on Policies and Advice. You will find the Assignment Presentation Requirements under the Advice section.
- ❖ You must familiarise yourself with the NCC Education Academic Dishonesty and Plagiarism Policy and ensure that you acknowledge all the sources which you use in your work. The policy is available on *Campus*. Follow the instructions above, but click on Policies rather than Advice.
- ❖ You must complete the ‘**Statement and Confirmation of Own Work**’. The form is available on the Policies section of *Campus*. Scroll down the left hand side until you reach Personal Support. Click on this and then click on Policies and Advice.
- ❖ Please make a note of the recommended word count. You could lose marks if you write 10% more or less than this.
- ❖ You must submit a paper copy and digital copy (on disk or similarly acceptable medium). Media containing viruses, or media which cannot be run directly, will result in a fail grade being awarded for this module.
- ❖ All electronic media will be checked for plagiarism.

Marker's comments:

Moderator's comments:

Mark:

Moderated

Final

Mark:

Mark:

Introduction

This assignment aims to give the candidate the opportunity to demonstrate their knowledge and understanding of Computer Networks and their Management. Students are expected to give descriptive answers with appropriate and specially created illustrations wherever required. The References will be checked for authenticity, so give the full references using the Harvard referencing method.

Task 1 – 10 Marks

In the context of network management:

- a) How would a network manager benefit from having network management tools? Describe 3 Scenarios using your own networking environment. (6)
- b) Describe the role of SMI in network Management. (4)

Task 2 – 15 Marks

- a) Outline FOUR advantages of using UDP as a transport-layer protocol, compared to TCP. (2)
- b) List THREE application-layer protocols which commonly employ UDP as the transport-layer protocol. For each application-layer protocol listed, outline the main reason why UDP is preferred over TCP. (5)
- c) Explain why the use of UDP for streaming multimedia applications is controversial. (3)
- d) Discuss one scheme which would force UDP to use adaptive congestion control and outline the advantages of such a scheme to the internet community. (5)

Task 3 – 15 Marks

- a) With the aid of a specially created diagram, detail the exchange which must take place between an arriving network client and a DHCP server, in order that the client may obtain a valid IP address. (3)
- b) List the FOUR major components of a router, detailing the operation of each. (6)
- c) Using appropriate diagrams, **compare** the structure of an IPv6 datagram with that of IPv4. Detail TWO advantages of IPv6 over IPv4. (6)

Task 4 – 25 Marks

Using available internet and library resources, research the provisions of the WEP and WPA wireless network security standards. Using approximately 1500 words, write a report comparing and contrasting the capabilities of these standards from the viewpoint of a computer network manager. The report should contain screen shots of WEP and WPA security standards from your working environment.

Task 5 – 35 Marks

Using available internet and library resources, research Business Continuity and Disaster Recovery from an IT management perspective.

- a) List the major steps for a disaster recovery process for an IT data centre. (10)
- b) For a business with which you are familiar, using approximately 2500 words, write the IT section of a business continuity and disaster recovery plan with appropriate diagrams. The business could be one in which you work or have worked, or it could be your college. Marks will be given for reports with appropriate examples and illustrations from previous workplace scenarios. (25)

Guidance

Consult with your tutor/lecturer if you are uncertain about any aspects of the assignment.

Submission Requirements

To pass the assignment candidates must:

- Complete all five Tasks above
- Submit their work in a single word-processed document of no more than **7000** words (+/- 10%) in length (excluding appendices)
- Produce clear and specific reasoning and argument to justify answers
- Make appropriate reference to relevant concepts, techniques and theories
- Appropriately cite all information sources

Warning: All media must be virus free!

Media containing viruses, or media which cannot be run directly, will result in a FAIL grade being awarded for this module.

**You must read and understand NCC Education's policy on 'Academic Dishonesty and Plagiarism'.
You must complete the 'Statement and Confirmation of Own Work' form and attach the completed form to
your assignment.**