

**UGANDA MARTYRS UNIVERSITY
NKOZI**

UNIVERSITY EXAMINATIONS

FACULTY OF SCIENCE

**DEPARTMENT OF COMPUTER SCIENCE &
INFORMATION SYSTEMS**

END OF MODULE ASSESSMENT

MICT-I & II, 2023/24

ENTERPRISE NETWORK DESIGN AND MANAGEMENT

COURSE CODE: MIS 6201

DATE: 24TH FEBRUARY 2024

INSTRUCTIONS:

- **ATTEMPT ANY FOUR QUESTIONS**
- **ENDEAVOUR TO ANSWER THE EXAMINATION BY EXPLAINING YOUR POINTS THROUGH EXAMPLES AS MUCH AS POSSIBLE.**
- **START ANSWERING EACH NUMBER ON A SEPARATE PAGE**

QUESTION ONE:

BNS Enterprises is a textile manufacturing company in East Africa. It has a customer turnover of about 3.5 million people per year and a work force of 700 people spread over the branches in Kampala (Uganda), Juba (South Sudan), Kigali (Rwanda) and Kisumu (Kenya). Of the 700 employees, about one third are field staff in charge of marketing, sales and research. The rest take up the other departments like administration, manufacturing, ICT and so on. Your services have been solicited as an IT Consultant. Kindly advice on the following:

- What will it involve to manage such an enterprise network if the customer were to use the ISO/OSI Network Management Model? Give examples where possible.

(25 marks)

QUESTION TWO:

Enterprise Network management has got some FIVE best practices that IT personnel rely on to be in charge of their networks. Make an detailed discussion of these best practices, outlining any challenges that could be faced while trying to implement these practices.

(25 marks)

QUESTION THREE:

The hierarchical network design works well within the campus infrastructure. But today's networks have expanded beyond these borders. They are now more sophisticated and complex. The central campus site for example, now requires connections to branch sites and support for teleworking employees working from home offices or other remote locations.

Large organizations may also require dedicated connections to offsite data centres. This has made it necessary to adjust enterprise network designs to those that use a more modular approach.

From the statement above, make a discussion of the benefits for using a modular network design approach.

(25 marks)

QUESTION FOUR:

Network design requires a great deal of knowledge and experience. It is this knowledge and experience that network administrators have relied on to come up with network design best practices. Outline and explain the SIX common network design best practices.

(25 marks)

QUESTION FIVE:

The network design best practices need good, structured engineering principles in order to be implemented. These engineering principles are identified as;

- Hierarchy
- Modularity
- Resiliency
- Flexibility

Explain in detail what is involved in each of these principles. Give examples where possible.

(25 marks)

QUESTION SIX:

Today's enterprise network architecture consists of:

- (i) Local Area Networks
- (ii) Wide Area Networks
- (iii) Cloud Networks

Make an in-depth discussion of each of these networks as constituents of enterprise networks. Explain the characteristics for each as it constitutes an enterprise network.

(25 marks)

END