

MPUC

University Examinations 2011

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE
OF BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY-
BTECH.ICT 11 M2**

EIT 4201: NETWORK DESIGN AND IMPLEMENTATION
August 2011 **TIME: 2 HOURS**

INSTRUCTIONS

This paper contains five questions

Answer **Question ONE** and any other **TWO** questions

Paper 1

QUESTION 1

- (a) Outline THREE main methods of a bridge in computer networks
3 Marks
- (b) State THREE main methods that are used to identify and analyze a customer's existing network environment.
3 Marks
- (c) State any SIX structured design methodologies
3 Marks
- (d) Outline any EIGHT Criteria for selecting LAN devices
4 Marks
- (e) Name FOUR enterprise requirement that may affect the choice of the network design
4 Marks
- (f) State FOUR types of information that need to be gathered about the existing network.
4 Marks
- (g) Explain FOUR benefits of wireless network
4 Marks
- (h) State any THREE security risks in wireless networks
3 Marks
- (i) Describe Access Control List ACL
2 Marks

QUESTION 2

- (a)
- i. State TWO network design approaches
 - ii. Describe each of the design approaches in (a) (i) above
 - iii. Describe ONE advantages of each of the network design approaches in (a) (i)
 - iv. (iv) Describe ONE disadvantage of each of the network design approaches in (a) (i) 10 Marks
- (b) Outline any SIX specific steps involved in any network design project. 6 Marks
- (c) State any FOUR WAN technologies that are available for connecting enterprise resources 4 Marks

QUESTION 3

- (a) Describe any FOUR common types of technical constraints that a network designer may encounter 8 Marks
- (b) Describe any SIX computer network planning steps 12 Marks

QUESTION 4

- (a) Outline THREE major classes of IPv4 addresses 3 Marks
- (b) (i) Describe subnet masking
(ii) Distinguish between sub-net and super-net masking
(iii) Describe Variable Length Subnet Masking 5Marks
- (c) Explain any EIGHT network trouble shooting steps 4 Marks
- (d) Describe FOUR network troubleshooting tools 8 Marks

QUESTION 5

- (a) Describe any FOUR data gathering process needs that are considered in any new planned services, applications, and features required for the new or upgraded network 8 Marks

(b) Outline any FOUR details that should be included in implementation plan documentation:
4 Marks

(c) Explain any FOUR goals of network design 8 Marks