



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE

SMA 491: COMPUTER NETWORK

DATE: Monday 28th November 2011

TIME: 2.00p.m -4.00p.m

INSTRUCTIONS Attempt question one and any other two questions

Question One (30 marks)

- a) What are the key benefits of layered network? [6marks]
- b) What is the role of the transport layer (layer 4) in the OSI model? [6marks]
- c) What is crosstalk? How is it minimized in case of twisted-pair of wire?
[6marks]
- d) What is multiplexing and what role does it play in computer networks?
[6marks]
- e) Distinguish between data and signal. [6marks]

Question Two (20marks)

- a) What is noise and how can we categorize it? [8marks]
- b) How do you account for higher reliability and scalability of computer network?
[6marks]
- c) What are the key benefits of layered network? [6marks]

Question Three (20marks)

- a) Give at least four computer network topologies. [4marks]
- b) Mention at least three different categories of computer networks (on the basis of scale) and distinguish one from the other. [8marks]
- c) Transmission media can be classified into which two 2 types? [4marks]

- d) What are the two types of Transmission technologies, basis on which computer networks can be categorized? [4marks]

Question Four (20marks)

- a) What do you mean by Protocol? [4marks]
- b) Describe the algorithms used in CSMA/CD and Token passing. [8marks]
- c) Give details of two switching techniques used in computer networks. [8marks]