

18



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

**UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR 1 SEMESTER 1**

**FOR THE DEGREE OF
MASTER OF SCIENCE (INFORMATION TECHNOLOGY)**

COURSE CODE : MIT 814

COURSE TITLE : COMPUTER NETWORKS

DATE: 21/10/2018

TIME: 9.00 AM – 12.00 PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS.

Question One (20 Marks)

- (a) Describe Four types media used in digital communication 8 marks
- (b) Describe the following network topologies 4 marks
 - (i) Star
 - (ii) Mesh
- (c) In wireless communication the signal strength is 20millwats and the noise is 1000 microwatts determine the signal to noise ratio 2 marks
- (d) Discuss three attributes that could be used to determine QOS in data communication. 6marks
- (e) Explain how you may manage congestion during data transmission 2marks

Question Two (20 marks);

- (a) Discuss the following protocol 8 marks
 - (i) CSMA/CD
 - (ii) CSMA/CA
- (b) Compare and contrast the ISO and TCP/IP network models 10 marks
10 marks

Question Three (20 Marks)

- (a) Illustrate this algorithm that could used in determining the shortest path during store and forward of packet. 8marks
- (b) (i) Discuss the statement that in order for student to appreciate IT strategy , the student must appreciate military and business strategies what
- (ii) Discuss any two routing strategies 12 marks

Question Four (20 Marks)

- (a) Discuss the following for the following networks 12marks
 - (i) Stop and Automatic Repeat request (ARQ)
 - (ii) Go back N ARQ
 - (iii) Selective ARQ
- (b) Using a suitable example illustrate cyclic redundancy check technique 8 marks

Question Five (20 Marks)

- (a) Four domain of security of computer based system is Access control, Network security, log management remote access. Briefly discuss each 12 mark
- (b) Discuss the statement "It has been stated that we should build a Human wall in place of fire wall. 8 marks