



(Knowledge for Development)

KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR**

**SPECIAL / SUPPLEMENTARY EXAMINATIONS
YEAR THREE SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE OF
BACHELOR OF SCIENCE
(COMPUTER SCIENCE)**

COURSE CODE : CSC 313.
COURSE TITLE : COMPUTER NETWORKS

DATE: 29/01/2021 TIME: 11.00 A.M – 13.00 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE [COMPULSORY] [30 MARKS]

- a) Using an example define the following terms: [4 marks]
- i. Protocol
 - ii. A standard
- b) Differentiate between the guided and not-guided transmission media giving an example of each transmission media. [6 marks]
- c) Give two advantages and two disadvantages of using twisted pair over fibre optic. [4 marks]
- d) State and briefly any three application standards [6 marks]
- e) Describe peer – to – peer network model. [4 marks]
- f) Explain a honeypot as used in network security. [2 marks]
- g) Discuss the benefits a school can draw by setting up a network. [4 marks]

QUESTION TWO: [20 MARKS]

- a) i. Distinguish between a bridge and a switch? [4 marks]
- ii. What features make a bridge suitable for use in network implementation? [4 marks]
- b) i. Explain the types of algorithms that may be used to build a routing table used in choosing paths for data flow in a network. [4 marks]
- ii. Outline the type of information that is contained in a routing table. [4 marks]
- c) Differentiate between PAN and LAN, giving any two technologies that are used to implement each. [4 marks]

QUESTION THREE: [20 MARKS]

- a) i. In design and implementation of networks, twisted pair cables may be used. What are the advantages and disadvantages of using this type of cables in networking? [6 marks]
- ii. Fibre optic cable is used in backbone networks because of its high speeds and bandwidth. Discuss the categories of fibre optic cables, stating their advantages in networking. [6 marks]
- b) Discuss the Switching techniques used to move packets in a WAN, giving their differences. [8 marks]

QUESTION FOUR: [20 MARKS]

- a) Compare and contrast Star and Mesh topologies. [4 marks]
- b) Discuss baseband and broad band signals [4 marks]
- c) i. Transmission media usually suffers from transmission flaws. What causes the transmission flaws in media types? [8 marks]
ii. Outline factors that may influence final cost of implementing specific type of media type. [4 marks]

QUESTION FIVE: [20 MARKS]

- a) Explain how “Confidentiality, Integrity and Availability (CIA) concepts are used to provide adequate protection to network resources, procedures and technologies. [6 marks]
- b) Discuss any categories of the UTP cables, giving their speeds of data transmission. [4 marks]
- c) Explain four services provided by a Network Operating System. [4marks]
- d) In setting up a scalable network, there are specifications that must be considered on a media. Discuss the specifications that are considered. [6 marks]