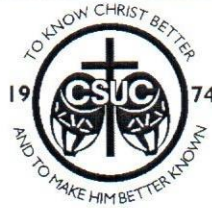


INDEX NUMBER _____



CHRISTIAN SERVICE UNIVERSITY COLLEGE
KUMASI, GHANA
FACULTY OF HEALTH AND APPLIED SCIENCES
DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
BACHELOR OF SCIENCE IN COMPUTER SCIENCE
END OF FIRST SEMESTER EXAMINATIONS – 2021/2022 ACADEMIC YEAR

LEVEL 400

CSPC 455 DATA COMMUNICATIONS AND NETWORKS I

JANUARY 2022

SECTION B (30 Marks)

Time Allowed: 1 Hour 15 Mins

GENERAL INSTRUCTION TO CANDIDATES:

Questions in this Sections are to be answered in the answer booklet provided.

Time allocated is 75 Minutes.

Answer ANY three questions in this Section.

All questions carry equal marks.

Examiner: Emmanuel Kwesi Baah

SECTION B (30 Marks)

Answer any three questions from this section.

Question One

- a. Explain the following:
 - i. Error-control [3 marks]
 - ii. Congestion [3 marks]
- b. What is *framing*? [2 marks]
- c. Mention four key functions of the data link layer? [2 marks]

Question Two

- a. Explain the differences between a WAN and a LAN. [5 marks]
- b. Explain the following network topologies:
 - i. Mesh topology [2 ½ marks]
 - ii. Star topology [2 ½ marks]

Question Three

- a. Explain the factors responsible for Congestion at the network layer of the OSI Model. [5 marks]
- b. Distinguish between a frame and a packet. [5 marks]

Question Four

- a. State the various data encapsulation of the OSI Model layers and mentioning them in their appropriate order?[4 marks]
- b. State three disadvantages of the ring topology. [3 marks]
- c. What is an *access point*? State two advantages of an access point. [3 marks]