DEPARTMENT OF COMPUTER SCIENCE
2024_1 EXAMINATION

COURSE CODE: CIT852
COURSE TITLE: Data Communication and Network
CREDIT: 3 Units
TIME ALLOWED: 2½ Hours
INSTRUCTION: Answer Question ONE (1) and any other THREE (3) Questions

Questions

1(a) Identify 4 features of a switched network   [8 marks]
(b)   Define the AND, OR and XOR operators and tabulate a logic table for variable A and B for them.
                                                                   [7 marks]

(c) Assess the composition of (i) Class C (ii) Class D   [8 marks]

(d) What is meant by a bridge to be fully transparent   [2 marks]

2(a) State the key features of the star topology that aid its functionality
                                [9 marks]
 (b) Compare Transmission Control Protocol (TCP) and User Diagram Protocol (UDP)
                                [6 marks]

3(a) In terms of functionalities differentiate between the network layer and the data link layer of the Open System interconnection (OSI) model
            [8 marks]

(b) Show how different frame format poses difficulties when trying to build a bridge between the various 802.11 LANs   [7 marks]

4(a) Tabulate 5 differences between asynchronous and synchronous method of communication
                        [10 marks]

(b) Differentiate between Hierarchical address and Flat address in internetwork
                        [5 marks]

5(a) Justify the choice of a maximum of 50 FM stations in a particular geographical area.
                        [9 marks]

(b) Fill the missing information in the table below based on cabling used for baseband 802.3 LANs
                [6 marks]

Characteristics/Cab	10Base5	10Base2	10BaseT	10BaseF