PIONEER INTERNATIONAL UNIVERSITY

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ACADEMIC YEAR: 2021/2022   **UNIT NAME** :DATA COMMUNICATION & NETWORKS

SEMESTER: SEPT-DEC 2021   **UNIT CODE**: BSIT 2140

DATE: DEC 2021   **TIME**: 2 HOURS

INSTRUCTIONS: Answer question one (30 marks) and any other two

Question ONE: (30 MARKS) – COMPULSORY

a) Define the following: -
- (i)   Bandwidth   (2 marks)
- (ii)   Channel capacity   (2 marks)
- (iii)   Multiplexing   (2 marks)
- (iv)   LAN   (2 marks)

b) With a neat block diagram explain data communication model.   (6 marks)

c) Sketch and OSI model. Describe the purpose of each layer in one sentence.   (4 marks)

d) Differentiate between the terms Baud Rate and Transmission Rate as used in data communication   (4 marks)

e) Explain the working of CSMA/CA and CSMA/CD protocol   (4 marks)

f) Briefly describe circuit switching and packet switching.   (4 marks)

Question TWO

a) Define computer networks. Enlist the various network topologies and discuss three typesof networks topologies in computer network.   (10 marks)

b) Differentiate between:
- i.)   Hub   (2 marks)
- ii.)   Switch   (2 marks)
- iii.)   Router   (2 marks)