

QP CODE 2073515202

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DMI-ST. EUGENE UNIVERSITY
ZAMBIA

DEGREE EXAMINATION – JUNE 2024

Semester: V

351 NS 52 COMPUTER NETWORKS

Time: 3:00 Hours

Max. Marks: 100

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) Clarify the concept of resource sharing in computer networks. How does network connectivity allow users to share resources like files, printers, and applications? **(5 Marks)**
b) Explain the needs of computer network components? Discuss each in details with its functionality and limitations? **(10 Marks)**
c) How does a personal area network (PAN) differ from a Local area Network (LAN)? What are some common devices that frame the PAN? **(5 Marks)**
2. a) What is physical topology in computer networking, and how does it differ from logical topology? **(2 Marks)**
b) Distinguish between the TELNET and FTP? **(8 Marks)**
c) Elaborate and explain the roles of network control devices in a network. **(10 Marks)**
3. a) Explain the overall functionality and architecture of the Radio Wave Communication? **(5 Marks)**
b) How does the Twisted pair cable works to transmit signals? And discuss its appearance. **(5 Marks)**
c) Explain in detail about the unguided media and its types? **(10 Marks)**
4. a) Elaborate and discuss the types of errors during data transmission? **(10 Marks)**
b) Clarify the interface and organization between Network Layer and Transport Layer? **(10 Marks)**
5. a) Explain in detail about the IP addressing and the classes of IP Address? **(10 Marks)**
b) How does the TCP/IP Protocol suite works? And Discuss the each layer. **(10 Marks)**
6. a) Elaborate the Bluetooth architecture with the neat diagram? **(10 Marks)**

- b) Compare and contrast the Fiber optical cable and co-axial cable. **(10 Marks)**
7. a) Elaborate the classification of computer network? And give a details explanation how one types differ from another. **(10 Marks)**
- b) Sate the necessities of hardware sharing and software sharing in computer network? Give examples? **(5 Marks)**
- c) Discuss the peer – to – peer network model functionalities? Also list its limitations? **(5 Marks)**