**DISTRICT COMPREHENSIVE ASSESSMENT, RTQF LEVEL... 2023-2024**

**SECTOR: ICT & MULTIMEDIA**

**TRADE: SOFTWARE DEVELOPMENT**

**MODULE CODE:** GENBN401

**MODULE NAME:** BASICS OF NETWORKING

**DATE OF EXAM: 18/3/2024**

**DURATION: 3HOURS**

**SCHOOL YEAR: 2023-2024**

**TERM: 2**

<u>**Instructions:**</u>

1. **Attempt all questions in section A**                             **(55 Marks)**
2. **Attempt three questions in section B**                        **(30 Marks)**
3. **Attempt one question in section C**                           **(15 Marks)**

## SECTION A

1. What is a network and what are its components? **/5Marks**
2. Describe the Internet and its significance. **/5Marks**
3. What is a LAN and how does it differ from a WAN**? /5Marks**
4. Explain the role of a router in a network. **/3Marks**
5. What is the function of a firewall in network security? **/3Marks**
6. Define bandwidth in networking. **/3Marks**
7. Differentiate between Client-Server Network and Peer-to-Peer Network**.** **/5Marks**
8. Differentiate between logical and physical network topologies. **/5Marks**
9. Explain the concept and features of Star Topology**. /5Marks**
10. Describe Ring Topology and its characteristics**. /5Marks**
11. What is Hybrid Topology, and what are its characteristics? **/4Marks**
12. Define Protocols in networking. **/3Marks**
13. What is the purpose of subnetting IP addresses, and what are the benefits of subnetting? **/4Marks**

## SECTION B

1. Describe different network technologies.
2. Give the full of the following acronyms: **/10Marks**
   a) DHCP:
   b) ISP:
   c) NAT:
   d) PAT:
   e) VLSM:
   f) FLSM:
   g) MAU:
3. Complete the following table about IPv4 class ranges: **/10Marks**

| Class | Start | End |
|-------|-------|-----|
| A | | |
| B | | |
| C | | |
| D | | |
| E | | |

4. Fiber optics exist in two types. Discuss them.  **/10Marks**

5. While making Ethernet cross-over cable, there is international color coding to follow. Give the color coding for both end of a cross-over cable. **/10Marks**

**SECTION C: MANDATORY**

1. Given the network address of **192.168.132.0** and the subnet mask of **255.255.255.0** with CIDR notation **/28**. Subnet by answering the five questions related to subnetting. **/15Marks**