**KABARAK UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**THIRD SEMESTER 2019**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN EDUCATION SCIENCE**

**COMP 314: COMPUTER NETWORKS (SBL)**

**STREAM: Y3S1 TIME: 2HRS**

**EXAMINATION SESSION: JULY 2019 DATE : …………**

**INSTRUCTIONS TO CANDIDATES**

1. **Answer Question 1 and any other two questions in the answer booklet provided.**
2. **Do not write on your question papers. All rough work should be done in your answer booklet.**
3. **Clearly indicate which question you are answering.**
4. **Write neatly and legibly.**
5. **Edit your work for language and grammar errors.**
6. **Follow all the instructions in the answer booklet**

**SECTION A: (Compulsory) TOTAL MARKS FOR THIS SECTION IS 30.**

**QUESTION ONE [30 MARKS]**

1. Define computer networks [2marks]
2. Discuss the OSI Model [10marks]
3. What is routing?, explain any three routing protocols [6marks]
4. A router is an intelligence device, explain [4marks]
5. Discuss the types of computer networks [6marks]
6. What is sub netting? [2marks]

## SECTION B (ANSWER ANY TWO QUESTIONS)

**QUESTION TWO [20 MARKS]**

1. Discuss (CSMA) carrier sense multiple access [3marks]
2. What is a Packet Sniffer [2marks]
3. What is meant by the term network security? [3marks]
4. Discuss types and sources of security threats in a network. [6 marks]
5. Discuss all the six basic hardware components used in construction of any network. [6marks]

**QUESTION THREE [20 MARKS]**

1. Explain the steps in router configuration [5marks]
2. Describe media access control [6marks]
3. Structure a virtual LAN [5marks]
4. One of the challenges in computer network is Security, list four threats and its measures [4marks]

**QUESTION FOUR [20 MARKS]**

a) Consider the following numbers expressed in IP address decimal format; 177.127.177.120,

192.19.192.255 and 172.270.172.270

i. Convert 19210 and 1910 to binary numbers [4marks]

ii. Identity the class, NID, HID and subnet of each of the IP addresses [6marks]

b) Discuss all the classes of IP addresses [10 marks]

**QUESTION FIVE [20 MARKS]**

1. Network technology are standards in which data follows during transmission .Discuss five Network Technologies in details [10marks]
2. Switching is a mechanism by which data/information sent from source towards destination which are not directly connected. Discuss the types of switching [6marks]
3. Differentiate between TCP and UDP protocol [4marks]