

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2014/2015**

**YEAR 4 SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF PURCHASING AND SUPPLIES MANAGEMENT**

**BIT 2116: NETWORK SYSTEMS DESIGN & IMPLEMENTATION**

**DATE: August 2015 TIME: 2 HOURS**

**INSTRUCTIONS:**

**Answer Question One (Compulsory) and Any Other Two Questions**

**QUESTION ONE**

1. Outline the components of a Network Management System. (8marks)
2. i. Serial Line Internet Protocol (SLIP) and Point-to Point protocol (PPP) are among some other standards or protocols that are common features of networks that utilize multiple levels of the OSI Reference Model. State the features that PPP was defined to improve on SLIP by the internet Engineering Task Force (IETF) (4marks)

ii. State five reasons why certain dial-up configurations cannot use SLIP (5marks)

1. Distinguish between the following terms
2. Intranet (2marks)
3. Extranet (2marks)
4. Unix (and Linux by extension) is a Network Operating system. State any five features that it offers. (5marks)
5. With the aid of a well labelled diagram briefly explain any two network topologies (4marks)

**QUESTION TWO**

1. i. State the two principal functions of an IP address. (2marks)

ii. Briefly explain any five of the most common services available on computer networks (10marks)

1. Clearly explain the role of the following:
2. System Administrator (2marks)
3. Network Administrator (2marks)
4. Differentiate between a Network Management System (NMS and a Network Operating System (NOS) (4marks)

**QUESTION THREE**

1. State any five properties of a computer network (5marks)
2. Explain the three main steps involved in the Networking Planning Process. (9marks)
3. State any three network management tools and their uses (6marks)

**QUESTION FOUR**

1. Network survivability has been one of the critical requirements in network planning and design. Discuss (5marks)
2. With the aid of a clearly labelled diagram do a comparison of the TCP/IP and OSI Reference models in terms of their layered functionalities (15marks)