

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**UNIVERSITY VILLAGE, JABI FCT ABUJA**

**FACULTY OF SCIENCE**

**OCTOBER/NOVEMBER 2016 EXAMINATION**

**CIT303: Principles of Communication Technology**

**TIME ALLOWED: 3Hours**

**INSTRUCTION(S): Attempt any Five (5) questions**

**Question 1**

1. List 6 commonly used network topologies that you know **– 6 Marks**
2. Briefly discuss any 4 of the listed topologies **- 8 Marks**

**Question 2**

1. List the Layers of OSI reference Model in the right order – **4 marks**
2. Write on any five of the layers of the Model – **10 marks**

**Question 3**

1. Guided media such as twisted pair cables, coaxial cable and fibre-optic cable provide a conduit from one device to another. Discuss any 4 advantages of fibre-optic cables over twisted pair or coaxial cables - **8 marks**
2. Enumerate the advantages and disadvantages of Star Topology – **6 marks**

**Question 4**

1. Compare space-division and time-division switching - **6 marks**
2. Differentiate between symmetric-key cryptography and asymmetric-key cryptography **– - 4 marks**
3. Mention any 4 examples of application layer implementation protocols that you know **- 4 marks**

**Question 5**

1. Contrast between Simplex, Half duplex and Full duplex Communication

- **3 marks**

1. Wireless transmission is divided into 3 broad groups. Write briefly on each of the 3 broad classifications – **6 marks**
2. Briefly discuss the three main causes of impairment **- 5 marks** -

**Question 6**

1. With the aid of a diagram, explain the five components of data communication

- 7 **marks**

1. Discuss the basic functions of the Network Layer of the OSI model **– 7 marks**