



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

- i) List 6 commonly used network topologies that you know – **6 Marks**
- ii) Briefly discuss any 4 of the listed topologies – **8 Marks**

Question 2

- i) List the Layers of OSI reference Model in the right order – **4 marks**
- ii) Write on any five of the layers of the Model – **10 marks**

Question 3

- i) 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**
- ii) Enumerate the advantages and disadvantages of Star Topology – **6 marks**

Question 4

- i) Compare space-division and time-division switching – **6 marks**
- ii) Differentiate between symmetric-key cryptography and asymmetric-key cryptography – **4 marks**
- iii) Mention any 4 examples of application layer implementation protocols that you know – **4 marks**
- iv)

Question 5

- i) Contrast between Simplex, Half duplex and Full duplex Communication – **3 marks**
- ii) Wireless transmission is divided into 3 broad groups. Write briefly on each of the 3 broad classifications – **6 marks**
- iii) Briefly discuss the three main causes of impairment – **5 marks**

Question 6

- i) With the aid of a diagram, explain the five components of data communication – **7 marks**
- ii) Discuss the basic functions of the Network Layer of the OSI model – **7 marks**