



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2018/2019 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS**

**YEAR FOUR SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE OF**

**BACHELOR OF SCIENCE INFORMATION  
TECHNOLOGY**

**Course code** : BIT417 / CSC 413

**Course title** : DISTRIBUTED SYSTEMS

**DATE:** 30/05/2019

**TIME:** 8:00 A.M – 11:00 A.M

---

**INSTRUCTIONS TO CANDIDATES**

Answer Questions ONE and ANY OTHER TWO.

### QUESTION ONE [COMPULSORY] [30 MARKS]

1. Differentiate between a tree structured network and a fully connected network. [4marks]
2. State and explain any three types of distributed systems [6marks]
3. Explain the meaning of the term 'Remote IPC'. And describe any four functions of remote IPC. [5marks]
4. Explain six ways in which a designing a distributed application differs from a non-distributed application. [6marks]
5. Describe a Network operating system and give two advantages and two disadvantages of using it to implement distributed systems. [5marks]
6. Differentiate between access transparency and concurrency transparency [4marks]

### QUESTION TWO [20 MARKS]

1. State and explain any five characteristics of distributed systems [10marks]
2. List any four disadvantages of the client/server model [4marks]
3. How can we call a procedure in a remote process? [6marks]

### QUESTION THREE [20 MARKS]

1. Discuss the Eight fallacies of distributed computing. [16marks]
2. Discuss World Wide Web as a massive distributed system [4marks]

### QUESTION FOUR [20 MARKS]

1. Discuss the proxy server model of distributed systems [10marks]
2. In distributed systems, security is the combination of availability, integrity, and confidentiality. Explain the tree combination. [6marks]
3. Discuss the concept of Transparency in distributed systems [4marks]

### QUESTION FIVE [20 MARKS]

1. Using a diagram describe the distributed system architecture [10marks]
2. Explain four key characteristics of a Peer to Peer system [4marks]
3. Briefly discuss three Scalability Challenges in distributed systems [6marks]