CROSS RIVER UNIVERSITY OF TECHNOLOGY, CALABAR
DEPARTMENT OF COMPUTER SCIENCE
FIRST SEMESTER EXAMINATIONS 2017/2018 SESSION

COURSE CODE: 4105
COURSE TITLE: COMPUTER NETWORKS AND DATA COMMUNICATIONS   TIME: 2HRS
INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1a.   Describe the basic hardware components of a Local Area Network.

b.   What are the basic network design goals?

2a.   Discuss the common media applied in modern networks.

b.   Describe the basic routing techniques.

3a.   Briefly describe four basic functions of network administrate

b.   Describe five basic network maintenance tools.

4a.   Discuss basic network communication technologies.

b.   What is a protocol? Discuss the OSI network model.

5a.   Discuss the functions of the IP, TCP and UDP protocols.

b.   Discuss briefly a network design procedure.

6a.   What is a network operating system.

b.   What are the features of a network operating system.

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COURSE CODE: 4105
COURSE TITLE: DATA COMMUNICATION AND NETWORKING   TIME: 2HRS
INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1.   I) What is the number of network IDs in a Class C Network? II) What happens when you use cables longer than the prescribed length? III) What common software problems can lead to network defects? IV) What is Ping? V) What is peer to peer? VI) What is the difference between a straight-through and crossover cable? VII) What advantages does fiber optics have over other media? VIII) What is the standard color sequence of a straight-through cable? IX) You need to connect two computers for file sharing. Is it possible to do this without using a hub or router?

2.   In a network you will find links, backbones, LAN, Nodes, Routers, Point to Point links, FTP, Subnet mask etc. With your understanding of network explain the mentioned network components. The use of diagrams will attract additional marks.

3.   Data Encapsulation is one way of sending messages through a network. Explain the process of Encapsulation, Encrypting, Multiplexing, NAT and VPN.

4.   A company operating in a country has a Heterogeneous network. Explain the network of the company.

5.   The effectiveness of a data communications system depends on four fundamental characteristics. Label the diagram and explain and each actor.