



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWASY, JABI-ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE

2021_1 EXAMINATIONS

COURSE CODE: CIT311

COURSE TITLE: Computer Networks

CREDIT UNITS: 3

TIME ALLOWED: 2½ HOURS

INSTRUCTION: Answer Questions 1 (One) and Any Other Four (4)

- 1a.) Enumerate the advantages and disadvantages of a Transparent Bridge? **(3 Marks)**
 - b) In a tabular form, differentiate between OSI and TCP reference model. **(5 marks)**
 - c.) State the advantages of Routers over Bridges **(5 marks)**
 - d.) Explain the principles that were adopted to arrive at the number of layers of the OSI model **(3marks)**
 - e.) Compare the following:
 - i) Logical Link Control and Medium Access Control **(2Marks)**
 - ii) Half Duplex and Full Duplex transmission **(2Mark)**
 - iii) Frequency Division Multiplexing and Time Division Multiplexing **(2Mk)**
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- 2.a) Describe any four(4) functions of a Network Switch **(4 marks)**
 - b) Describe the two sub-layers of the Data Link Layer **(4marks)**
 - c) Describe the following types of computer network **(4 Marks)**
 - i) Switch Networks
 - ii) Broadcast network
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- 3a) Explain any four classes of service defined for ATM, according to ATM Forum UNI 4.0 Specification and their associated quality of service parameters **(8 marks)**
 - b) Define the Domain Name System and Outline the benefits Domain Name System **(4marks)**
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- 4a) Write an appropriate pseudo code for source routing Bridges **(7marks)**
 - b.) Give details description of the Star topology **(5 marks)**
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- 5a) Give any six (6) functional description of Gateways **(5 marks)**
 - (b) Briefly comment on the following services of the Application layer:

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|-------|------------------------------|----------------|
| (i) | Telnet, | <i>2 marks</i> |
| (ii) | File Transfer protocol (FTP) | <i>2 marks</i> |
| (iii) | Remote Procedure Call (RPC) | <i>3 marks</i> |

6a) Describe the features IEEE 802.3 and Ethernet standard for LAN network(*5mks*)

b)What are the Goals of a Computer Network?(*4mks*)

c)List any six (6) resources that can be shared over a computer network (*3mks*)