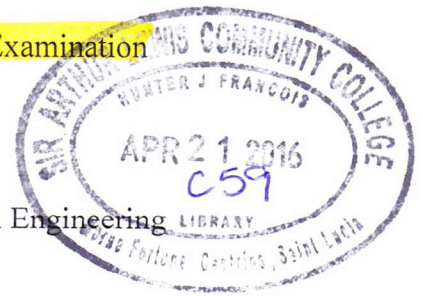


ITEMS PAST PAPER
TECHNICAL

SIR ARTHUR LEWIS COMMUNITY COLLEGE

DIVISION OF TECHNICAL EDUCATION AND MANAGEMENT STUDIES

EXAMINATION SESSION	:	May 2015 Final Examination
TUTOR	:	K. Harris
PROGRAMME TITLE	:	Computer System Engineering
PROGRAMME CODE	:	3EE-CMS-AD
COURSE TITLE	:	Computer Networking
COURSE CODE	:	CMP204
CLASS	:	Year 2
DATE	:	Tuesday 5 th May, 2015
TIME	:	1:00pm
DURATION	:	2½ Hours
ROOM	:	TRA-R2
INVIGILATORS	:	C. Charles, K. Numa



INSTRUCTIONS:

- This paper contains **10 QUESTIONS**.
- **All** questions should be attempted.
- Write legibly.
- Number all questions attempted properly.
- Ensure that all parts of any question is on the same paper.
- All submitted work must be in **Blue or Black** ink/pen

1. (a) What is a computer network **(1 mark)**
 (b) What do you understand by the term Client – Server Networking **(2 marks)**
 (c) List 4 advantages of a client – server network over a peer – to – peer network. **(4 marks)**
 (d) Give two reasons why you would advise a company to network their computers. **(4 marks)**

2. (a) List the characteristics of a Local Area Network (LAN)? **(5 marks)**
 (b) What are the types of media used in LANs? **(5 marks)**
 (c) Central to the study of networks is the OSI model. Describe the function of the layers with one sentence for each layer. OSI is Applications, Presentation, Session, Transport, Network, Data Link, and Physical (top to bottom). **(7 marks)**

3. Given an IP address of 96.112.58.132/29 determine:
 - i. What class is it?
 - ii. how many bits you must borrow to create the desired number of subnets (if applicable).
 - iii. the possible and usable subnets.
 - iv. how many possible and usable hosts you have in each subnet.
 - v. the Default Mask.
 - vi. the Subnet Mask.**(7 marks)**

4. As it relates to computer networks, define the following terms
 - i. Protocol
 - ii. Medium
 - iii. Segment
 - iv. Node
 - v. Topology**(5 marks)**

5. (a) List 4 server types that can be installed using Windows 2000 Server. **(4 marks)**
 (b) Explain the function of a Print and Application Server listing two local organization that may have use for these types of servers **(6 marks)**
 (c) What is a ‘computer workgroup’ as used in a networking environment? **(5 marks)**

6. (a) What is an internetworking device? **(1 mark)**
 (b) Give three reasons for using internetworking devices. **(3 marks)**
 (c) List three internetworking devices, stating the layer at which they operate **(6 marks)**
 (d) Explain how any one of the devices stated above functions. **(5 marks)**

7. (a) Differentiate between a logical topology and a physical topology. **(5 marks)**
 (b) List the four (4) basic topologies. **(5 marks)**
 (c) Draw a labeled diagram and explain the function of any one (1). **(5 marks)**

8. (a) Explain the Carrier Sense Multiple Access Contention

10. A commercial entity with 12 computers want a computer network built. You are employed to design and set up the network at minimal cost but maximum efficiency. Due to the design of the building the office is spread over two floors with one printer on each floor. All the computers on each floor must have access to the floor printer at any time. There is need for high speed internet connection and reliable connection between computers on the network as files are constantly swapped. In your design, Justify:
 1. The topology employed
 2. The internetworking device/s used
 3. The NOS used.

Diagrams should be used to aid the explanation.

(20 marks)