MAKERERE UNIVERSITY

CMP1103: INFORMATION & COMMUNICATION TECHNOLOGY

BSc. Biomedical, Computer, Electrical & Telecommunications-1st Year

CAT1 TUESDAY 11th SEPTEMBER 2018 10:05AM-11:20AM (75 min)

INSTRUCTIONS:

Attempt all questions for 75 Marks.

Clear explanations and appropriate examples for full marks.

1) (25 marks)

a) Albert, a first year and his senior six colleagues. Ingrid are talking about the internet on a visit to his former school's lab. **Albert**: The internet is down because I can't telnet to 192.18.2.1 as I used to.

Ingrid: Even me, ever since they blocked Facebook here.

i. Who do you think is more likely to be right?

ii. Explain to them the difference between www and the internet

iii. Of what other use can the internet be to them? List any six

iv. Explain to Ingrid how she accesses www.facebook.com/users/Blessed_Ingrid page from her browser using IP

b) What is the difference between ICT and IT? Which one is most applicable to Uganda's development plans of the year 2040 and why do you think so? (5 Marks)

2) (20 marks)

a) Write the following in full, with examples if any: MSDOS, SMTP, DNS, ENIAC, MIME. (5 Marks)

b) List any four super computers or main frames and their origin/feature. (4 marks)

c) Explain the difference between mainframes and super computers. Explain any three functions they might do similarly or differently in practice and your basis. (7 marks)

d) What changed between the second and fourth generation of computers? (4 marks)

3) (30 marks)

a) In two weeks' time, Google as a search engine will be 20 years old.

i. List any 10 types of search engines (5 marks)

ii. Contrast six major challenges faced by search engines then and today? (6 marks)

b) Describe four network topologies for setting up a personal network. (5 marks)

c) To what extent is a router similar to a switch? (2 marks)

d) What are the difference between optical fiber and twisted Ethernet cables? (3 marks)

e) Convert the following numbers and state one application of the target base.

i. 1101011.111 to decimal and octal (6 marks)

ii. 11110001101 to binary coded decimal (3 marks)