University of Ruhuna - Faculty of Technology
Bachelor of Engineering Technology Degree
Level 1 (Semester 1) Examination – October 2018

Department: Information & Communication Technology   **Time Duration: 1 hour**

Course Unit: TMS1132 (Computer Fundamentals & PC Applications)

Answer **_all_** the questions

1.

a.

    i. State three (3) key properties of Von Neumann Architecture.

    ii. Write the function of the **program counter** in the instruction cycle.

    iii. Name three (3) functional groups of system bus used to connect CPU with other components of a computer.

    iv. Briefly explain the behavior of computers in terms of cost, size and performance over the computer generations.

b.

    i. Name two (2) types of printers and give an example for each of them.

    ii. Briefly explain the followings in Read Only Memory (ROM).
- PROM
- EPROM
- EEPROM

c.

    i. Basically, there are two types of application software considering the purpose which they are being used. List down these types and given an example for each of them.

    ii. Name five (5) main functions of an operating system.

    iii. Briefly describe the following three security techniques of an operating system.
- User Authentication
- Access Control
- Cryptography

d.

    i. Name three (3) advantages and three (3) disadvantages of the use of email.

    ii. Briefly explain how machines operate in a client-server architecture.

2.

  a.

    i.   What is meant by multiplexing in computer networks?

    ii. Explain the characteristics of LAN, MAN and WAN in terms of ownership, bandwidth and speed.

    iii. Briefly explain how data travel in Star and Ring network topologies.

  b.

    i.   What is meant by computer troubleshooting?

    ii. If your computer does not have enough space, then re-capturing space is needed. Write three (3) methods you can follow to re-capture the space.

    iii. Write two (2) troubleshooting actions for each of the following situations.

- Sound is not working
- Printer is not working

  c.

    i.   Describe three (3) core objectives of computer security defined in CIA Triad.

    ii. Give suitable example for each objective mentioned above (2.c.i.).

    iii. List three (3) fundamental security design principles.

  d.

    i.   Write the key difference between a computer virus and a worm.

    ii. Briefly explain the term "Plagiarism".

    iii. List three (3) ethical practices you should follow as a computer user.

*****END*****