BACHELOR OF SCIENCE GENERAL DEGREE LEVEL II (SEMESTER I) EXAMINATION – JULY/AUGUST 2016

SUBJECT : COMPUTER SCIENCE **Time: 1 hour**

COURSE UNIT : COM1111 - Basic Concepts of Information Technology

Answer two (2) questions only.

1.

a. Compare features of first and fifth generation computers. (20 marks)

b. Explain the main functionalities of Arithmetic and Logic Unit (ALU). (10 marks)

c. Executing a single computer instruction consists of a particular cycle (instruction cycle) of four (04) events. List them and explain each briefly. (20 marks)

d. Mention the two (02) access methods of data, which resides on main memory. (10 marks)

e. Compare basic features of PROM, EPROM and EEPROM memory modules (15 marks)

f. Briefly explain functions of following hardware. (15 marks)

i. Cache memory
ii. CD-RW
iii. Motherboard

g. Explain the function of program counter. (10 marks)

2.

a. State three (03) functions of pointing devices. (15 marks)

b. Name two (02) major types of impact printers and state one feature of each type. (10 marks)

c. Compare four (04) features of inkjet and laser printers. (20 marks)

d. State two (02) functions of Operating Systems and explain one (01) briefly. (10 marks)

e. List three (03) types of application software and briefly explain usage of each of them. (15 marks)

f. List two (02) main types of programming languages and explain each type with an example. (30 marks)

3.

a. List three (03) modes of data transmission. (15 marks)

b. Discuss two (02) advantages and two (02) disadvantages of bus topology. (20 marks)

c. State layers of OSI model in data communication. (14 marks)

d. Briefly explain following terms associated with networking.

i. VPN
ii. Router

(06 marks)

e. Convert following binary numbers to hexadecimal format. (15 marks)
100111111010
111111111001

f. Perform following calculations using one's and two's complement methods. Show steps clearly. (30 marks)

i. 115- 108 = 7
ii. 14 – 25 = -11