BANGABASI COLLEGE

TEST EXAMINATIONS, 2016

B.Sc PART – III HONOURS, COMPUTER SCIENCE

Time : 4 Hrs   **Full Marks : 100**

Instructions:
Answer *Question 1* and any *eight* from the rest.

Question 1: Answer any *ten* questions: 2 × 5 = 10
   a. What is the machine control operations used in 8085 microprocessor.
   b. Explain priority interrupts of 8085 microprocessor.
   c. What is T- State and Wait State ?
   d. Compare CALL and PUSH instruction in microprocessor.
   e. What do you understand by bus arbitration?
   f. Explain Hardwired control.
   g. What is PLA?
   h. Differentiate between periodic and non-periodic symbols.
   i. State differences between LAN and MAN
   j. Define encapsulation.
   k. What is a copy constructor in C++ programming?
   l. What is a prototype?
   m. Why is black box testing?
   n. What is morphing?
   o. What is normalization?
   p. What is a super key?

Question 2:   4+(3+3)=10
   a. If the 8085 adds 87H and 79H.Specify the contents of the accumulator and the state of the S, Z and CY flag.
   b. Write a program to perform the following functions and verify the output steps:
       i).Load the number 5CH in register D.
       ii) Increment the contents of register C by one.

Question 3:   3+2+5=10
   a. What operation can be performed by using the instruction SUB A? Specify the status of Z and CY?
   b. What is partial decoding?
   c. Write instruction to load the hexadecimal numbers 65H in register C and 92H in the accumulator A. Display the number 65H at PORT 0 and 92H at PORT 1?

Question 4:   6 + 4 = 10
   a. Explain Memory Hierarchy with a diagram.
   b. What is memory-mapped I/O?

Question 5: $6 + 4 = 10$
    a. Explain with a diagram the TCP/IP protocol suite.
    b. State the advantages and disadvantages of optical fibres.

Question 6: $(4 + 4) + 2 = 10$
    a. Write notes on:
        (i)   DNS   (ii)   Ethernet
    b. What is bandwidth?

Question 7: $5 + 5 = 10$
    a. Explain the concept of exception handling in C++ with help of a program.
    b. Differentiate between procedural language and object oriented language.

Question 8: $3 + 7 = 10$
    a. What is an abstract class? How can you define an abstract class in C++?
    b. Design a C++ program to implement friend classes.

Question 9: $4 + 4 = 10$
    a. Why is spiral model called meta-model?
    b. Compare and contrast between white box testing and black box testing.

Question 10: $3 + 7 = 10$
    a. What is a SQA?
    b. Draw a level 1 DFD for Student Attendence System.

Question 11: $5 + 5 = 10$
    a. What is Translation? Explain with an example.
    b. Discuss the applications of Computer Graphics.

Question 12:   10
    a. Explain Bresenham's Line drawing algorithm.

Question 13: $8 + 2 = 10$
    a. Discuss Indexed Sequential File Organization with an example.
    b. Why is data security needed?

Question 14: $6 + 4 = 10$
    a. What are the advantages of DBMS over traditional file processing systems?
    b. Write notes on Relational Calculus.