BCA/Integrated MCA 1st Semester Examination

Subject: Computer Fundamentals & Programming in C
Subject Code: CAL-101

Time Allowed: 03 hours.            Maximum Marks: 100

Before answering the question paper the candidate should ensure
that they have been supplied the correct question paper.
Complaints in this regard, if any, shall not be entertained after the
examination.

Note: Attempt any five questions and all questions carry equal marks.

Section – A

1 (a) Define a computer system. What are the basic characteristics
of a digital computer?         (5)

(b) Draw the block diagram of functional components of a
computer system and give brief discussion on each
component.                (10)

(c) Differentiate between primary memory and secondary
memory                  (5)

2 (a) Define: bit, byte, and nibble, compiler, and interpreter   (5)

(b) Convert the following decimal numbers into their equivalent
binary numbers
   (i) 75 (ii) 56.5 (iii) -76 (iv) 222                    (4*2.5)

(c) Draw the flow chart that determines largest among three
given numbers.                   (5)
3. (a) What is an operation system? Explain the concept of time sharing of the processor. (5)
   
   (b) What are the various generations of computers? Give a brief discussion on each generation. (10)

Section – B

4. (a) Define the terms: token, keyword, identifier, variable, and constant. (5)
   
   (b) Write a program that finds the smallest in a given list of N numbers. (10)
   
   (c) What are the characteristics of C which makes it suitable for system programming? (5)

5. (a) Explain the difference between logical and relational operators with the help of a suitable example. (6)
   
   (b) What is a conditional operator? Explain with the help of an example. (6)
   
   (c) Write a program in C that converts a given Celsius temperature into its equivalent temperature in Fahrenheit using the following formula:

   \[ F = \frac{9}{5} \text{ Celsius} + 32 \]  (8)

6. (a) What do you mean by switch statement? Explain with the example? (5)
   
   (b) Write a given program in C that checks whether a given number is palindrome or not? (10)