Total No. of Questions : 8] [Total No. of Printed Pages : 3

Paper Code : 21301

F–401

B.C.A. Ist Year (First Semester) Examination, 2018

(New Course)

Paper-BCA-101

COMPUTER FUNDAMENTAL AND PROGRAMMING IN C

Time : 3 Hours] [Maximum Marks : 70

Note :– Attempt any *five* questions.

1. (a) Explain the various generations of computers discussing the technical changes and achievement in each generation.

   (b) What do you understand by input-output devices ? Explain *five* input and output devices. 7,7

2. (a) Define various decision control statements in C. If the marks obtained by a student in three different subjects are input through the keyboard. Write a program in C to calculate average marks and percentage obtained by the student.

   (b) Discuss the various types of operators in C. Discuss each with suitable example. 7,7

3. (a) What is Structured programming concept ? Define in detail top down design.

   (b) Discuss flow charts. Also define various flow chart notation used of representation of "C" Programs. 7,7

4. (a) What do you mean by computer software ? Discuss the relationship between software and hardware. Explain different types of software with suitable example of each.

   (b) What is memory ? What are the different types of memories ? Discuss their merits, demerits and area of application. 7,7

5. Define linear array and Multidimensional array with example. Write a program in C to calculate matrix multiplication of two 3 * 3 matrix. 14

6. (a) Covert the following : 2 each

   (i) $(330.625)_{10}$ ..... > $()_2$

   (ii) $(110.1001)_2$ ..... > $()_{10}$

(iii) $(6782)_8$ ..... > $()_{16}$

(iv) $(9EB)_{16}$ ..... > $()_8$

(v) $(5B7)_{16}$ ..... > $()_{10}$

(b) Explain the following terms : 2 each

(i) ASCII Code

(ii) Bit and Bytes.

7. Differentiate between any *four* of the following : 3.5 each

(i) While loop and Do-while loop

(ii) Multiprocessing and Multiprogramming

(iii) Algorithm and Flowchart

(iv) Break and Continue Statement

(v) Time sharing and Real time processing.

8. Write short notes on any *two* of the following : 7 each

(i) Central Processing unit

(ii) High level language

(iii) Debugging and testing of programs.