(i) Printed Pages : 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 0 6 7

Exam. Code : 0 0 0 1

B.A./ B.Sc. (General) 1st Semester

1125

COMPUTER APPLICATIONS

Paper–A : Fundamentals of Computer and C Programming

Time Allowed : Three Hours] **[Maximum Marks : 65**

Note:– Attempt **five** questions in all including the compulsory question and taking **one** question each from Sections A-D.

(Compulsory Question)

1. Write short notes on the following :
   (a) Define software. What are its types ? 2
   (b) Define Data and Information. 2
   (c) Constants and variables. 2
   (d) Dynamic memory allocation. 2
   (e) Bitwise Operators. 2
   (f) Using C program, illustrate Call by Value and Call by Reference. 3

SECTION–A

2. (a) What are Computers ? Write the characteristics of computer. Write a detailed note on Generations of Computer. 8
   (b) What are translators ? Explain the different types of translators used. 5

3. (a) Perform the following conversions :

(i) $(156.45)_{10} = (?)_2$

(ii) $(AC2F)_{16} = (?)_2$

(iii) $(10110101010.1101)_2 = (?)_{10}$

(iv) $(456)_8 = (?)_{10}$ 8

(b) Write note on secondary storage devices. 5

SECTION–B

4. Write advantages and disadvantages of following systems :

Time sharing, multiprocessing, multitasking and real time computing. 13

5. (a) What is an algorithm ? Write an algorithm to print even numbers from 2 to 100. 7

(b) Explain the various basic programming constructs. 6

SECTION–C

6. (a) Write a C program to print the given number in reverse order. 5

(b) Explain constructs used for decision making. Give an example for each and explain the working of the construct. 8

7. (a) Explain the structure of C-Program with example. 5

(b) What is recursion ? Write a recursive function for finding the factorial of a given number. 8

SECTION–D

8. (a) Explain the use of pointer in C-programming. How can you declare the pointer ? Explain with example. 7

   (b) What is an array ? Explain the declaration and initialization of one and two dimensional arrays with example. 6

9. (a) What is the process of declaring a file ? What are the different modes in which a file can be opened ? Illustrate. 7

   (b) Differentiate between structures and union. Give example. 6