MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : GE4B-17T Computer Basics and Multimedia Software

UPID : 413017

Time Allotted : 3 Hours   Full Marks :70

The Figures in the margin indicate full marks.
Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

[1 x 10 = 10]

1. Answer *any ten* of the following :
   - (I) As per Sign Magnitude the value of the decimal of $(110011)_2$ will be _____.
   - (II) The deleted files or folders are stored in _____.
   - (III) The manner of starting a computer by pressing the Restart or the Reset button is called _____.
   - (IV) In BCD code _____ number of bits is used to create a signal.
   - (V) The idea based on which the operating system executes any program which is larger in size than the RAM is called _____.
   - (VI) The manner in which the computer starts after the power switch is turned on is known as _____.
   - (VII) Given an integer array, arr[], the ith element can be accessed by writing _____.
   - (VIII) In C, size of is an operator. (Yes/No)
   - (IX) The fopen() function returns _____ when the file is not opened.
   - (X) What will be the output of the following program?
     ```
     main()
     {
       int i;
       for(i=0;i<4;++i);
       printf("%d",i);
     }
     ```
   - (XI) _____ operating systems do not support more than one program at a time.
   - (XII) How to declare a double-pointer in C?

Group-B (Short Answer Type Question)

Answer *any three* of the following :   [5 x 3 = 15]

2. Find the difference of $(7324.16)_8 - (542.27)_8$.   [5]
3. Find the difference of $(5A62)_{16} - (2ABC)_{16}$.   [5]
4. Explain 'cat' and 'mv' commands with suitable examples.   [5]
5. Explain memory hierarchy with suitable diagram.   [5]
6. Define array. Explain different types of arrays in detail.   [5]

Group-C (Long Answer Type Question)

Answer *any three* of the following :   [15 x 3 = 45]

7. (a) Define data.   [2]
   (b) Write the different types of data and elaborate shortly.   [7]
   (c) Write a c program to find out vowels and count the number of vowels in a string.   [6]
8. (a) Determining the difference of $(100110)_2 - (111000)_2$ using 1's complement.   [4]
   (b) Explain multiprogramming and multiprocessing operating systems.   [5]
   (c) Differentiate between break and continue statements with suitable examples.   [6]
9. (a) What are command line arguments?   [6]
   (b) Explain the following using general syntax and example: [9]
      i) while
      ii) do-while
      iii) for

10. (a) Consider a direct mapped cache of size 16 KB with block size 256 bytes. The size of the main memory is 128 KB. Find Number of bits in tag and Tag directory size. [7]

(b) Explain the difference between Windows and Linux operating systems. [5]

(c) What is the use of static variables in C? [3]

11. (a) Consider a 8-way set associative mapped cache of size 512 KB with block size 1 KB. There are 7 bits in the tag. Find the size of main memory and tag directory size. [8]

(b) Explain different types of language translators. [5]

(c) What is application software? [2]

*** END OF PAPER ***