Your Roll No. ....

B.Sc. (G) / III   D

COMPUTER SCIENCE— Paper VI

(Multimedia System and Application
Operating System)

Time : 3 hours   *Maximum Marks* : 38

*(Write your Roll No. on the top immediately
on receipt of this question paper)*

*Part I is compulsory. Attempt any five questions from Part
II. Attempt all the parts of a question together.*

PART I

1. (a) What is Multimedia? Discuss some of the major applications of multimedia.   4

   (b) What do you understand by phased development of a software? Compare and contrast the Waterfall and Spiral models of S/W development.   5

   (c) What is a Unix process? How can you send a process to background and keep track of it? Explain kill, grep and chmod commands with examples.   5

P.T.O.

(d) Discuss COCOMO as a cost estimation model. What are the various factors involved in project planning?   5

PART II

2. Differentiate between the following:

    (a) mkdir and rmdir

    (b) "who | sort" and "who > sort"   4

3. What is cyclomatic complexity? Calculate it by drawing the flow graph for the following code for bubble sort:

    ```
    int a, b, v;
    int list [100];
    for (a=1; a<100; a++)
    {
        for (b=1; b<100-a; b++)
        {
            if (list [b]>list [b+1])
            {
                v=list [b];
                list [b]=list [b+1];
                list [b+1]=v;
            }
        }
    }
    ```
    4

4. Discuss the characteristics and components of an SRS.

                                                        4

5. Write a Unix shell program to print calendar for three consecutive months. The names of months are given as arguments to the program.

    For example : cal june jul aug   4

6. What is software risk management? Discuss.   4

7. Draw a data flow diagram for the following:

    A library database contains entries for books and customers in two files. The system records issue of book transactions in a third file. As a book is issued, its number of copies is updated in the book master and a transaction for it is added in the transaction file. Whenever the book is returned the *vice-versa* is done. At the end of the day two listings are taken out:—

    o   The list of all books that have been issued and to which customer.

    o   The list of all books that are to be returned on the next day.   4

8. What is Data Compression? Compare lossless techniques with lossy techniques of data compression.

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