B. C.S.E. 3rd year Spl. Examination Ist Semester Supple 2011

SYSTEMS PROGRAMMING

Time: 3 hours   Full Marks: 100

Answer any **Five (5)** questions from the following

1.

a. What is system software?

b. Draw and describe Process State Diagram.

c. What is direct memory addressing mode? Give a proper example.

d. What are the differences between .com and .exe file?

e. What do you understand by macro? Explain with the help of an example.

2+6+4+3+5

2.

a. Write a program in 8086 assembly language to find (i) length of the string "computer" and (ii) the number of occurrences of "m" in "computer".

b. Write a program in 8086 assembly language to find largest among three 16 bit numbers. The numbers should be taken as input from user and stored in an array.

10+10

3.

a. How will you write a program in debug?

b. Explain with a suitable example how can a procedure be declared, defined and called using 8086 Assembly language. Also mention what happens if the procedure is called from a different file.

8+12

4.

a. Write a program in 8086 assembly language to sort a given list of 25 integer numbers using any sorting algorithm.

b. Write a program in 8086 assembly language to find (i) length of the string "computer" and (ii) the number of occurrences of "m" in "computer".

10+10

5.

a. What is a process? What does the Process Control Block (PCB) contain?

b. What are the different types of linking methods?

c. Describe First Come First Served (FCFS) scheduling policy. Mention its advantages and disadvantages.

(2+6)+2+10

6.

a. Calculate turnaround time of each process (from the following information) using First Come First Served (FCFS) scheduling policy.

Process	Arrival Time	Execution time
P0	0	12
P1	3	5
P2	4	10
P3	7	8
P4	9	3

(Turnaround time is the total time taken by a process from arrival till end of execution)
(Show the Gantt chart.)

b. Explain the working of absolute loader. What are its advantages and disadvantages?

12+8

7.

a. Describe the working of a two-pass assembler.
b. What are the tasks of a compiler?
c. What does a linking loader do?

10+5+5

8. Write short notes on any one of the following: 20

    a.   Macro processor, linkage editor
    b.   One pass assembler and one and a half-pass assembler

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