BACHELOR OF COMPUTER SCIENCE ENGG. EXAMINATION, 2009

(Third Year, First Semester, Supplementary)

SYSTEMS PROGRAMMING

Time : Three hours

Full Marks : 100

Any **FIVE (5)** questions from the following

1.

a. Draw the block diagram of 8086 microprocessor with different register.

b. Describe different memory model of 8086.

c. What are the differences between near and far pointer?

d. What does the instruction ROL perform?

10+4+3+3

2.

a. Between Macro or function which one is better to use and why? Write a macro named Addition which will take 2 input data and return 1 output

b. Write a program in 8086 assembly language for HCF of two 16 bit no

(3+7)+10

3.

a. Describe different addressing mode of 8086 with proper example

b. Write a program in 8086 assembly language for Bubble Sort

10+10

4.

a. How does Round Robin (RR) scheduling work?

b. Calculate turnaround time of each process (from the following information) using Round Robin scheduling (RR) algorithm: (Time slice: 3 time units)

Process	Arrival Time	Execution time
P0	0	6
P1	1	4
P2	2	8
P3	3	11
P4	4	9
P5	6	5

(Turnaround time: total time from arrival till end of execution)

(Show the Gantt chart. Mention clearly the policy used if time slice is not utilized fully.)

6+14

5.
Describe the working of a two-pass assembler. How is it different from the working of a one and half – pass assembler?

12+8

6.
a. Explain the concept of linking loader.
b. What is linkage editor?
c. What are the disadvantages of a static loader?

8+7+5

7.
What are the different partitioned memory management techniques? Briefly describe any one of them with advantages and disadvantages.

5+15

8. Write short notes on any two: 10X2
   a. Compiler
   b. First Come First Served scheduling policy
   c. MASM

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