

## PGDCA / MCA (I Year) / BCA

## Term-End Examination

December, 2008

## CS-02 : INTRODUCTION TO SOFTWARE

Time : 2 hours

Maximum Marks : 60

Note : Question number 1 is compulsory. Attempt any three questions from the rest.

1. (a) Describe with the help of an example, the macro facility and its implementation within an assembler. 5
- (b) Consider the following processes in the ready queue (at the same time). 6

<u>Processes</u>	<u>CPU time</u>
P <sub>1</sub>	2
P <sub>2</sub>	3
P <sub>3</sub>	1
P <sub>4</sub>	4
P <sub>5</sub>	2

Calculate the average turnaround time and average waiting time for the processes given by :

- (i) FCFS
- (ii) RR (quantum=2)

- (c) Explain the principle of the following Non-contiguous Allocation schemes : 8
- (i) Linked allocation
  - (ii) Indexed allocation
- (d) Write a shell program to find the average marks secured by a student in 5 subjects. 5
- (e) Give notes (in brief) on : 6
- (i) vi editor
  - (ii) Next software
2. (a) Give UNIX commands for : 3x1=3
- (i) to kill the last background job ?
  - (ii) delete all files in the current directory and subdirectory.
  - (iii) to go to end of line in vi editor.
- (b) What is the role of a System Analyst in Software Engineering ? 4
- (c) Describe the role of 4GL's in the applications development. 3
3. (a) Write an algorithm and draw a corresponding flowchart to reverse a given 4-digit number. 5
- (b) With the help of a neat diagram, explain the address translation scheme in a segmented system. 5

4. (a) Explain various mechanisms (atleast two) to protect a file in a multi-user environment. 5
- (b) With the help of a suitable example for each, explain the features and objective of the following : 5
- (i) Gantt chart
  - (ii) PERT chart
5. (a) Give a brief note on file and directory structure in UNIX. 4
- (b) Write short notes on *any two* of the following : 2x3=6
- (i) Virtual Memory
  - (ii) Pipes and Filters in UNIX
  - (iii) X-Windows

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