

06462

**BACHELOR IN COMPUTER
APPLICATIONS**

Term-End Examination

June, 2011

**CS-63 : INTRODUCTION TO SYSTEM
SOFTWARE**

Time : 2 hours

Maximum Marks : 60

Note : Question no. 1 is compulsory. Answer any three questions from the rest.

1. (a) Explain the concept of Macro - Processor. 8
With the help of an example, explain how a Macro is defined.
- (b) Write a shell program to find the Greatest 7
Common Divisor (GCD) for any two given numbers.
- (c) Consider the following set of processes 7
arrived at the same time:

<u>Process</u>	<u>CPU time</u>
P1	5
P2	10
P3	8
P4	4

Draw the Gantt Chart and calculate the average turnaround time and average waiting time for

- (i) SJF scheduling
- (ii) FCFS Scheduling
- (d) Write regular expressions for **8**
 - (i) A set of strings including {d, abd, cd, abcd}
 - (ii) A set of strings x's, y's and z's. such as { xx, xxy, xxyzz, zz}

- 2. (a) Explain the following : **6**
 - (i) Symbol table
 - (ii) Case Tools
 - (iii) 3 GL's
- (b) Explain the address mapping procedure in a passing system. **4**

- 3. (a) What is 4GL ? Give an example for 4GL. Mention the merits and demerits of usage of 4GL's in application development. **6**
- (b) Explain the function of YACC which is used for development of Compiler in Unix Operating System. **4**

- 4. (a) Explain the hardware support for the Mutual Exclusion problem, using semaphores. **4**
- (b) Explain first fit and best fit strategies for disk allocation. **6**

5. (a) Explain how fixed records I/O and variable length records I/O are implemented in UNIX system. 5
- (b) Construct Context Free Grammar for 5
- (i) assignment statement of 'C' language
 - (ii) if - then - else statement of 'C' language
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