

**BACHELOR OF COMPUTER  
APPLICATIONS  
(PRE-REVISED)**

**Term-End Examination**

**December, 2013**

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

*Time : 2 hours*

*Maximum Marks : 60*

---

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

---

1. (a) Write a shell program to find the largest of  $n$  numbers entered by the user. Also display the average of the numbers entered. 6
- (b) Define the term 'mutual exclusion'. Give a problem statement of a mutual exclusion and give a solution to it using semaphores. 8
- (c) Explain the stages of a 2 - pass assembler with an example. Give a brief note on cross - compiler. 8
- (d) Give an example to explain the following : 8
  - (i) FCFS scheduling
  - (ii) SSTF scheduling in disk scheduling.
2. (a) Explain various disk allocation methods and give their relative merits and demerits. 6
- (b) Give a comparison of various methods used to compact memory. Give example to explain this comparison. 4

3. (a) Give the functions of both medium term and long term schedulers. 4
- (b) Give the diagram and explain the purpose of fields of a PCB. 4
- (c) Give or construct a context free grammar for 'if-then-else' in C. 2
4. (a) Compare 3GL with 4GL. Explain the advantages of using 4GL in a programming/ application development. 4
- (b) Explain the following UNIX commands : 3
- (i) % ls -l dirfile
- (ii) % mail
- (iii) % wall
- (c) Give a short note on YACC. 3
5. (a) Explain file management and I/O device management in UNIX. 5
- (b) Give short notes on :  $2\frac{1}{2} \times 2 = 5$
- (i) Demand paging and segmentation.
- (ii) Deadlock Avoidance
-