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CS-63

02375

BACHELOR OF COMPUTER APPLICATIONS (PRE-REVISED)

Term-End Examination

December, 2012

CS-63 : INTRODUCTION TO SYSTEM SOFTWARE

Time : 2 hours *Maximum Marks : 60*

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

1. (a) Consider the following snapshot of a system. **3+2+2=7**

	Allocation	Max	Available
	ABCD	ABCD	ABCD
P_0	0012	0012	1520
P_1	1000	1750	
P_2	1354	2356	
P_3	0632	0652	
P_4	0014	0656	

(i) What is the content of matrix need ?

(ii) Is the system in a safe state ?

(iii) If a request from process P_1 arrives for (0, 4, 2, 0), can the request be granted immediately ?

(b) What is a Macro ? How are macros defined and called ? 5

(c) Explain the following GUI terms : 6

(i) Icons

(ii) Desktop metaphors

(iii) Windows

(iv) Bit-mapped displays

(d) Write short notes on the following : 12

(i) CPU schedulers

(ii) expr

(iii) Three kinds of file organisations

(iv) Absolute and Relative Pathnames

2. (a) Write a shell script that accepts three file names as command line arguments, checks if the first two exit. If yes, then concatenates their contents into the third one. 6

(b) Explain the commands in UNIX for on-line and off-line communication. 4

3. (a) What are File Permissions ? Explain the mechanism for changing file permissions. 4

(b) What is Demand Paging ? Explain FIFO algo. to handle the page fault with the help of an examples. 6

4. (a) What is a Process ? Draw and explain the process state diagram. 4

(b) Explain the three phases of the analysis task of a compiler. 6

5. (a) Suppose a disk drive has 5000 cylinders numbered 0 to 4999. The drive is currently serving a request at cylinder 143 and the previous request was at cylinder 125. The queue of pending requests in FIFO order is- 86, 1470, 913, 1774, 948, 1509, 1022 starting from current head position, depict the head movement diagrammatically for following disk-scheduling algorithms- **6**

(i) FCFS

(ii) SSTF

(iii) SCAN

(b) Explain the UNIX Booting Process ? **4**