[4658] – 594

Seat No.	

T.E. (Computer) (Semester – I) Examination, 2014
OPERATING SYSTEM DESIGNS
(2012 Course)

Time : 3 Hours Max. Marks : 70

1. A) Explain the race condition in assigning inodes. **4**

   B) Explain in detail monolithic kernel and micro kernel. **6**

   OR

2. A) Elaborate on the following algorithms in brief (any two). **8**

   1) iget 2) ifree 3) namei 4) getblk.

   B) What is system call ? **2**

3. A) Describe the structure of a regular file with proper diagrammatic representation. **6**

   B) What is TLB ? Why it is used ? **4**

   OR

4. A) Explain the concept of a region. What does the region table entry consists of ? **4**

   B) If the Page address stream is {2, 3, 2, 1, 5, 2, 4, 5, 3, 2, 5, 2}, and frame size is 3. Identify the page faults occurred using FIFO, LRU. **6**

5. A) Explain IPC mechanisms used in System V. **8**

   B) What is socket ? Write and explain an algorithm to transfer data between two computers using socket. **8**

   OR

6. A) What is semaphore ? Provide solution to producer-consumer problem using semaphore. **8**

   B) Explain in detail shared memory and message passing along with their system calls. **8**

7. A) What is AWK scripting ? Write an AWK script to print squares of numbers from 1 to 10. **8**

   B) Explain in detail how to make USB bootable with any open source tool/utility ? **8**

   OR

P.T.O.

8. A) What is secure boot ? State the difference between BIOS and UEFI. **8**

   B) What is make utility ? Explain it with example. Consider your own makefile. **8**

9. A) Draw and explain Android OS architecture. **6**

   B) Explain static table-driven approach for real time scheduling. **6**

   C) Write short notes on : 1) Fail soft operation 2) Frame of references. **6**

OR

10. A) Explain the design issues of multiprocessor scheduling. **6**

    B) Compare hard, soft and firm real time systems. **6**

    C) Write a note on handheld devices. List various OS used for handheld devices. **6**

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