Reg. No. ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 51353

B.E/B. Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth/Seventh Semester

Computer Science and Engineering

CS 2028/CS 605/10144 CSE 22/CS 1005 – UNIX INTERNALS

(Common to Information Technology)

(Regulations 2008/2010)

(Common to PTCS 2028 – Unix Internals for B.E. (Part-Time) Fifth Semester Computer Science and Engineering – Regulations 2009)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. What is kernel ?

2. What is meant by kernel data structure ?

3. Distinguish between incore inode and disk inode.

4. What is the use of buffer cache ?

5. What are special files ?

6. What is meant by file system abstraction ?

7. Define context of a process.

8. How do you terminate a process ?

9. What is a device driver ?

10. What are sockets ?

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PART – B (5 × 16 = 80 Marks)

11. (a) (i) Discuss about the characteristics of UNIX. (8)

    (ii) Explain the architecture of UNIX. (8)

    OR

    (b) (i) Explain about OS services. (8)

    (ii) Explain about process table, uarea, region table and pregion table. (8)

12. (a) (i) Explain about buffer cache organization in detail. (8)

    (ii) Explain getblk algorithm in detail. (8)

    OR

    (b) (i) Explain about disk inode allocation algorithm. (8)

    (ii) Is it possible to implement the system such that the kernel stack grows on the top of the user stack. Discuss the advantages and disadvantages of such implementation. (8)

13. (a) Explain about :

    (i) pipes (8)

    (ii) open and read system call (8)

    OR

    (b) Explain about mounting and unmounting a file system. (16)

14. (a) (i) Explain about process states and transitions in detail. (8)

    (ii) Discuss about saving the context of process. (8)

    OR

    (b) (i) Explain about growreg algorithms in detail. (8)

    (ii) Write short notes on signals. (8)

15. (a) Explain about demand paging in detail. (16)

    OR

    (b) Explain about streams and disk drivers. (16)

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