6E3206

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B. Tech. VI Sem. (Main & Back) Exam., May/June-2014
Computer Engg.
6CS6.1 Advance Topics in Operating System
Common to CS & IT

Time: 3 Hours   **Maximum Marks: 80**
                                                     Min. Passing Marks: 24

Instructions to Candidates:-

*Attempt any **five questions,** selecting **one question** from **each unit**. All Questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly.*

Units of quantities used/ calculated must be stated clearly.

Use of following supporting material is permitted during examination.

1._____   2._____

UNIT -I

Q.1 (a) How message passing is implemented in operating system? Describe its design issues in detail. Write the advantage of message passing system in Windows and Linux operating system.   [8]

(b) Explain RPC and RMI mechanisms in brief.   [8]

OR

Q.1 (a) Describe client server model with diagram.   [8]

(b) What are Windows thread, Linux thread and Solaris thread? Explain different threading issues in detail. Why it is needed in operating system?   [8]

UNIT-II

Q.2 (a) How directories are implemented in file system? Explain reliability and integrity in file system. [8]

(b) What are different problems faced during system security? Explain system network threats regarding RAID system. [8]

OR

Q.2 (a) What is firewall? Explain firewall to protect systems and network. How cryptography acts as a security tool in RAID system? Explain along with its structure. [10]

(b) Explain boot block, bad-block and swap-space management. [6]

UNIT -III

Q.3 (a) What do you mean by network file system? Explain booting and login process.

[8]

(b) Explain file system structure arid its implementation in Linux OS. Describe input output management of it in brief. [8]

OR

(a) What is hard disk? What is its purpose? Explain architecture of its file system.

[6]

(b) Explain memory management in Linux and windows operating system. [10]

UNIT -IV

Q.4 (a) What are security features of windows OS? Explain environment subsystem and its security mechanisms. [8]

(b) Explain multiprocessor OS with its architecture. Also explain how it supports in windows and Linux registry. [8]

OR

Q.4 (a) What is process? Explain process scheduling and process synchronization. How we can provide security in it? [8]

(b) Explain in relation of file system: [2x4=8]

1. Internal layout

2. Recovery

3. Volume management

4. Fault tolerance

UNIT -V

Q.5 (a) What is Data Compression and its basic concept? Explain the various Compression technique. [8]

(b) Write short notes on: [2x4=8]

1. Video server

2. Palm OS

3. Multimedia file storage mechanism

4. Audio and Graphic file format

OR

Q.5 (a)   What is multos and symbian operating system? Also explain its application area.

[8]

(b)   Write shorts notes on:

1.   Clock driven and processor sharing approach.

2.   IEEE 1394

3.   Video server organization

4.   Window CE and java card   [2x4=8]