Distributed Operating System

CSE-402 E

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Class Work: 50
Exam: 100
Total: 150
Duration of Exam: 3 Hrs.

Unit-1:

Introduction: Introduction to Distributed System, Goals of Distributed system, Hardware and Software concepts, Design issues.

Communication in distributed System : Layered protocols, ATM networks, Client - Server model, Remote Procedure Calls and Group Communication. Middleware and Distributed Operating Systems.

Unit-2:

Synchronization in Distributed System : Clock synchronization, Mutual Exclusion, Election algorithm, the Bully algorithm, and a Ring algorithm, Atomic Transactions, Deadlock in Distributed Systems, Distributed Deadlock Prevention, and Distributed Deadlock Detection.

Unit-3:

Processes and Processors in distributed Systems : Threads, System models, Processors Allocation, Scheduling in Distributed System, Real Time Distributed Systems.

Unit-4:

Distributed file Systems : Distributed file system Design, Distributed file system Implementation, Trends in Distributed file systems.

Distributed Shared Memory: What is shared memory, Consistency models, Page based distributed shared memory, shared variables distributed shared memory.

Unit-5:

Case study MACH : Introduction to MACH, process management in MACH, communication in MACH, UNIX emulation in MACH.

Text Book:

Distributed Operating System - Andrew S. Tanenbaum, PHI.

Note: Eight questions will be set in all by the examiners taking at least one question from each unit. Students will be required to attempt five questions in all.

Advanced Java

CSE-404-E

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Class Work: 50
Exam: 100
Total: 150
Duration of Exam: 3 Hrs.

Unit 1:

Core Java : Introduction to Java, Data types, variables, operators, Arrays, Control Statements, Classes & Methods, Inheritance, Exception Handling, Multithreading, Collections, I/O streams, AVVT & Applet Programming.

Unit 2:

Networking : Connecting to a Server, Implementing Servers, Sending E-Mail, Making URL Connections, Advanced Socket Programming.

Unit 3:

Database Networking : The design of JDBC, The Structured Query Language, JDBC Installation, Basic JDBC Programming Concepts, Query Execution, Scrollable and Updatable Result Sets, Metadata, Row Sets, Transactions, Advanced Connection Management, Introduction of LDAP.

Unit 4:

Distributed Objects : The Roles of Client and Server, Remote Method Invocations, Setup for Remote Method Invocation, Parameter Passing in Remote Methods Server Object Activation, Java IDL and CCRA, Remote Method Calls with SOAP.

Unit 5:

Swing : Lists, Trees, Tables, Styled Text Components, Progress Indicators, Component Organizers.

Unit 6:

AWT : The Rendering Pipeline, Shapes, Areas, Strokes, Paint, Coordinate Transformations, Clipping, Transparency and Composition, Rendering Hints, Readers and Writers for Images, Image Manipulation, Printing. The Clipboard, Drag and Drop.

Unit 7:

JavaBeans Components : Beans, The Bean-Writing Process, Using Beans to Build an Application, Naming Patterns for Bean Components and Events Bean Property Tubes Bean info Classes Property Editors Customizes.

Unit 8:

Security : Class Loaders, Byte code Verification, Security Managers and Permissions, Digital Signatures, Code Signing, Encryption.

Text book:

Core Java 2, Volume II-Advanced Features, 7th Edition by Cay Horetmann, Gary Cornell Pearson Publisher, 2004.

Reference books:

Professional Java Programming by Brett Spell, WROX Publication
Advanced Java 2 Platform, How to Program, 2nd Edition, Harvey. M. Dietal, Prentice Hall

Note: Eight questions are to be set and at least one question from each unit. You have to attempt any five.