AKU B.E./B.Tech CSE Sem 7 syllabus

Distributed Computing

05 1X15 DISTRIBUTED COMPUTING
Credit : 5

1. Fundamentals : Definition Evaluation of distributed Computing System, Distributed Computer System Models. Distributed Operating System Designing a distributed Operating System, Introduction of distributed computing environment.

2. Massage Passing : Introduction, Design features, Issues in IPC by message passing, synchronization Buffering, Multidiagram messages, encoding and decoding message data.

3. Remote Procedure Calls : Introduction, The RPC Model. Transparency of RPC. Implementing RPC mechanism RPC messages server management, parameter- passing and call semantic, Communication protocols for RPC's.

4. Distributed Shared Memory : Introduction. Architecture of DSM Systems Design and implementation, granularly, Structure shared memory space Consistency models, replacement strategy, Thrashing.

5. Resource Management : Desirable feature, Task assignment approach, Load-balancing approach, Load-sharing approach.

6. Process Management : Process Migration, Threads

7. Distributed File System : Intake, Desirable features, File model, File accessing models, File-sharing semantic, File-catching schemes, File replication, Fault tolerance, Automatic transactions, Design principle.

Text Book:
1. Distributed Computing by Liu. Pearson Education.
2. Distributed Computing by Hagit Attiya and Jennifer Welch, Wiley

India.

3. Distributed Operating Systems : Concept and Design by P.K. Sinha, PHI
4. Distributed Operating System by Tenenbaum. Pearson Education

Artificial Intelligence

05 1X15 DISTRIBUTED COMPUTING
L-T-P : 3-0-3 Credit : 5

1. Fundamentals : Definition Evaluation of distributed Computing System, Distributed Computer System Models.
Distributed Operating System Designing a distributed Operating System, Introduction of distributed computing environment. Lecture : 5

2. Massage Passing : Introduction, Design features, Issues in IPC by message passing, synchronization
Buffering, Multidiagram messages, encoding and decoding message data. Lecture : 4

3. Remote Procedure Calls : Introduction, The RPC Model. Transparency of RPC. Implementing RPC mechanism RPC messages server management, parameter- passing and call semantic, Communication protocols for RPC's. Lecture : 10

4. Distributed Shared Memory : Introduction. Architecture of DSM Systems Design and implementation, granularly, Structure shared memory space Consistency models, replacement strategy, Thrashing. Lecture : 9

5. Resource Management : Desirable feature, Task assignment approach, Load-balancing approach, Loadsharing approach. Lecture : 4

6. Process Management : Process Migration, Threads Lecture : 2

7. Distributed File System : Intake, Desirable features, File model, File accessing models, File-sharing semantic,
File-catching schemes, File replication, Fault tolerance, Automatic transactions, Design principle. Lecture : 8

Text Book:

1. Distributed Computing by Liu. Pearson Education.
2. Distributed Computing by Hagit Attiya and Jennifer Welch, Wiley India.
3. Distributed Operating Systems : Concept and Design by P.K. Sinha, PHI
4. Distributed Operating System by Tenenbaum. Pearson Education

05 1x17 ARTIFICIAL INTELLIGENCE
L-T-P : 3-0-3 Credit : 5

1. Introduction : Why AI, Importance of AI. LISP, Prolog and other programming language for AI.
Lecture : 3

2. Search Strategies : Representation Scheme, Blind Search technique, Heuristic Search technique, Game search, Graph search (algorithm A and A*), Properties of A* algorithm, monotone – Specialized production systems – AO * algorithm. Lecture : 15

3. Searching Game Trees : Minimax procedure, alpha-beta pruning – Introduction to predicate calculus – Resolution refutation systems – Answer extraction. Lecture : 4

4. Knowledge Representation, Reasoning : Knowledge representation, Knowledge acquisition, Logical Representation scheme, procedural representation schema, network representation scheme, STRIPS robot problem solving system, Structured representations of knowledge (Semantic Nets, Frames, Scripts), KRR system, KR language, Domain modeling, Semantic net. Lecture : 8

5. Uncertainly : Non monotonic & monotonic reasoning, confidence factors, Bayes theorem, Dempster & Shafer's, Theory of evidence, Non-classical logic, Fuzzy reasoning. Lecture : 6

6. Natural Language Processing : An Introduction to Natural language Understanding, Perception, Learning.
Lecture : 4

7. Applications of Artificial Intelligence : Al in E-commerce, Al in Industry, Al in Medicine Lecture : 2

Text Books:

1. Introduction to Artificial Intelligence by Rajendra Akerkar, PHI
2. Introduction to Artificial Intelligence by Eugene Charniak, Pearson Education.
3. Artificial Intelligence by Rich & Knight. Tata McGraw Hills.
4. Introduction to Artificial Intelligence & Expert system by Dan W. Patterson, PHI

Reference Book:

1. Artificial Intelligence. A Modern Approach by Stuart Russell. Peter Norving and Pearson Education.
2. Introduction to Expert System, Peter Jackson. Pearson Education.
3. Artificial Intelligence application programming by M. Tim Jones, Dreamtech Press

Programming Lab (AI)

Implementation in all algorithms in LISP/Prolog