Lesson Plan

Name of Faculty : Prachi, Assistant Professor of CSE Discipline : Computer Science and Engineering

Semester : 7th (odd)

Subject : Artificial intelligence (CSE-402-T)

Lesson Plan Duration : 15 weeks (from September to December-2022) Work Load (Lecture/Practical) per week (in hours): Lectures-03hours.

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| **Week** | **Theory** | | **Topic Covered Date and Remarks** | | |
| **Lecture Day** | **Topic (Including Assignment/Test)** | **Date** | **HOD** | **Director- Principal** |
| 1st | 1 | Introduction to AI |  |  |  |
| 2 | Turing Test, AI problems, State Space Search |  |  |  |
| 3 | Problem Solving Using Search: |  |  |  |
| 2nd | 4 | Blind search techniques - Breadth first search |  |  |  |
| 5 | Depth first search. Heuristic  search techniques |  |  |  |
| 6 | Generate and test, hill Climbing |  |  |  |
| 3rd | 7 | Best first search, A\* Algorithm |  |  |  |
| 8 | AO+ Algorithm |  |  |  |
| 9 | Minimax Search Procedure, Adding Alpha-Beta Cut-offs |  |  |  |
| 4th | 10 | Knowledge Representation |  |  |  |
| 11 | Knowledge Representation |  |  |  |
| 12 | Representation and Mappings |  |  |  |
| 5th | 13 | Symbolic Logic - Propositional logic |  |  |  |
| 14 | Predicate logic- Representing simple facts in logic |  |  |  |
| 15 | Representing Instances and ISA Relationship,  Computable functions and Predicates, |  |  |  |
| 6th | 16 | Unification, Resolution . |  |  |  |
| 17 | Representing Knowledge Using Rules |  |  |  |
| 18 | Procedural versus Declarative Knowledge |  |  |  |
| 7th |  | **1st Minor Test** | | |  |
| 8th | 19 | logic programming,  , |  |  |  |
| 20 | Matching, control Knowledge. |  |  |  |
| 21 | Introduction to Non monotonic Reasoning |  |  |  |
| 9th | 22 | certainty Factors and Rule-based Systems |  |  |  |
| 23 | Fuzzy logic system |  |  |  |
| 24 | crisp Set, Fuzzy Sets |  |  |  |
| 10th | 25 | Fuzzy Membership Functions |  |  |  |
| 26 | operations on Fuzzy  Sets, Fuzzy Relations. |  |  |  |
| 27 | Planning |  |  |  |
| 11th | 28 | components of Planning System |  |  |  |
| 29 | Goal Stack planning, |  |  |  |
| 30 | Nonlinear planning using  Constraint Posting, |  |  |  |
| 12th | 31 | Hierarchical planning |  |  |  |
| 32 | Expert System and Applications |  |  |  |
| 33 | Architecture, Rule based Expert Systems |  |  |  |
| 13th | 34 | Applications of Expert Systems. |  |  |  |
| 35 | Forward versus Backward Reasoning, |  |  |  |
| 36 | Baye,s Theorem |  |  |  |
| 14th |  | **2nd Minor Test** | | |  |
| 15th | 37 | Bayesian Networks. |  |  |  |
| 38 | production system |  |  |  |
| 39 | . Heuristic  search techniques |  |  |  |