

I Year II Semester  
Code: 17CS252

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**ARTIFICIALINTELLIGENCE**  
(Elective-1)

**UNIT-I:**

**Introduction to artificial intelligence:** Introduction, history, intelligent systems, foundations of AI, applications, tic-tac-toe game playing, development to fail languages, current trends in AI

**UNIT-II:**

**Problem solving: state-space search and control Strategies: Introduction,** general problem solving, characteristics of problem, exhaustive searches, heuristic search techniques, iterative-deepening a\*, constraint satisfaction

**Problem reduction and game playing:** Introduction, problem reduction, game playing, alpha-be tap running, two-player perfect information games

**UNIT-III:**

**Logic concepts:** Introduction, propositional calculus, propositional logic, natural deduction system, axiomatic system, semantic tableau system in propositional logic, resolution refutation in proportion illogic, predicate logic

**UNIT-IV:**

**Knowledge representation:** Introduction, approaches to knowledge representation, knowledge representation using semantic network, extended semantic networks for KR, knowledge representation using frames **advanced knowledge representation techniques:** Introduction, conceptual depend encytheory, script structure, cyctheory, case grammars, and semantic web

**UNIT-V:**

**Expert system and applications:** Introduction phases in building expert systems, expert system versus traditional systems, rule-based expert systems blackboard systems truth maintenance systems, application of expert systems, list of shells and tools

**TEXTBOOKS:**

1. Artificial Intelligence-Saroj Kaushik, CENGAGE Learning,
2. Artificial intelligence, A modern Approach, 2<sup>nd</sup>ed, Stuart Russel, PeterNorvig, PEA
3. Artificial Intelligence-Rich, Kevin Knight, Shiv Shankar BNair,3<sup>rd</sup>ed,TMH
4. Introduction to Artificial Intelligence, Patterson, PHI

**REFERNCEBOOKS:**

1. Artificial intelligence, structures and Strategies for Complex problem solving,-George FLugar, 5<sup>th</sup>ed, PEA
2. Introduction to Artificial Intelligence, Ertel, Wolf Gang, Springer
3. Artificial Intelligence, A new Synthesis, NilsJ Nilsson, Elsevier