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| **Paper code: HCSCR6132T** | **Artificial Intelligence**  **(Theory)** | **Marks: 60** |
| **Serial** | **Group A** | **No. of Periods** |
| 1 | **Introduction:**  Introduction to Artificial Intelligence, Background and Applications, Turing Test and Rational Agent approaches to AI, Introduction to Intelligent Agents, their structure, behavior and environment | 08 |
| 2. | **Knowledge Representation:**  Introduction to First Order Predicate Logic, Resolution Principle, Unification, Semantic Nets, Conceptual Dependencies, Frames, Production Rules, Conceptual Graphs. | 10 |
| 3. | **Dealing with Uncertainty and Inconsistencies:**  Truth Maintenance System, Default Reasoning, Probabilistic Reasoning, Bayesian Probabilistic inference, Possible World Representations. | 08 |
|  | **Total** | 26 |
| **Serial** | **Group B** | **No. of Periods** |
| 4 | **Problem Solving and Searching Techniques:**  Problem Characteristics, Production Systems, Control Strategies, Breadth First Search, Depth First Search, Hill climbing, Heuristics Search Techniques: Best First Search, Constraint Satisfaction Problem, Means-End Analysis. | 20 |
| 5 | **Understanding Natural Languages:**  Parsing Techniques, Context-Free and Transformational Grammars, Recursive and Augmented Transition Nets. | 6 |
|  | **Total** | 26 |
| **Books and References:**  1. DAN.W. Patterson, Introduction to A.I and Expert Systems – PHI, 2007.  2. Russell &Norvig, Artificial Intelligence-A Modern Approach**,** LPE, Pearson Prentice Hall, 2nd edition, 2005.  3. Rich & Knight, Artificial Intelligence – Tata McGraw Hill, 2nd edition, 1991.  4. W.F. Clocksin and Mellish, Programming in PROLOG, Narosa Publishing House, 3rd edition, 2001.  5. Ivan Bratko, Prolog Programming for Artificial Intelligence, Addison-Wesley, Pearson Education, 3rd edition, 2000. | | |

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| **Paper code: C61P** | **Artificial Intelligence**  **(Practical)** | **Marks: 40** |