# 20AD31P1 - ARTIFICIAL INTELLIGENCE LABORATORY

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| Course Category: | Professional Core | Credits: | 1.5 |
| Course Type: | Practical | Lecture-Tutorial-Practical: | 0-0-3 |
| Prerequisite: | Basic Mathematics, Algorithmic Analysis  | Sessional Evaluation:Univ. Exam Evaluation:Total Marks: | 4060100 |
| Objectives: | * To learn how to solve the real world problems.
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| Course Outcomes | Upon completion of the course, students will be able to deal with problem solving which needs human intelligence. |
| Course Content | 1. Implement the following operations using Python
	1. Transpose of a given Matrix.
	2. Inverse of a given Matrix.
	3. Student grade assignment based on Marks.
2. Write a program to implement “Guess a Number” Game.
3. Write a program to implement “Towers of Hanoii”.
4. Write a program to implement “Tic-Tac-Toe” Game.
5. Write a program to solve “Water Jug Problem”.
6. Write a program to solve “Monkey Banana Problem”.
7. Write a program to solve “N Queens Problem”.
8. Write a program to solve “Traveling Salesman Problem”.
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| Text Books &ReferenceBooks | **TEXT BOOKS:**1. E.Horowitz, S.Sahni, S.Rajasekaran, ”Fundamentals of Computer Algorithms”, 2ndEdition, Universities Press, ISBN: 978-8173716126, 2008.
2. Artificial Intelligence- A Modern Approach, Stuart Russell, Peter Norvig (Person Education), Third Edition.
3. Martin C. Brown, “The Complete Reference: Python”, McGraw-Hill, 2018. 2. Kenneth A. Lambert, B.L. Juneja, “Fundamentals of Python”, CENGAGE, 2015.
4. “Introduction to Algorithms”, 3rd Edition, Prentice-Hall of India, ISBN: 978-81- 203-4007-7, 2010
5. R.J. Schalkoff, “Artificial Intelligence - an Engineering Approach”, McGraw Hill Int. Ed., Singapore, 1992.
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| E-Resources | 1. <https://Wiki.python.org/moin/WebProgrammingBooks>
2. <https://realpython.com/tutorials/web-dev/>
3. <https://www.w3schools.com/>
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**CO-PO Mapping:** 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

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|   | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | - | 1 | - | - | - | - | 1 | - | - | - | - | - |