



AY 2020 Onwards

Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE (AUTONOMOUS)

(Also known as R. J. College of Arts, Science & Commerce as per UGC Notification)

Affiliated to UNIVERSITY OF MUMBAI II Recognized by UGC under 2f & 12B
NAAC Accredited 'A GRADE' with CGPA 3.50

Knowledge is all Ambrosia

CERTIFICATE
COURSE IN

ARTIFICIAL
INTELLIGENCE

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Hindi Vidya Prachar Samiti was incepted on the auspicious day of Shri Krishna Janmashtami, 15th August 1938. A brain child of a visionary Late Shri Nandkishore Singh Jairamji, samiti was established with the objectives of catering to the educational needs of the Hindi speaking community. Ramniranjan Jhunjhunwala College came into existence in 1963, enabling a larger section of the society to take advantage of the facilities provided for higher education.

From 1999-2000 the College has added a number of self-financing courses like B.M.S., B.B.I., B.Sc. in Computer Science, Information Technology, Biotechnology, M.Sc. in Computer Science, Biotechnology and Information Technology as well as add on courses, which further hone the special skills of the students.

The college has been reaccredited with 'A' Grade by NAAC in 2014 with a CGPA 3.50 and received the Best College Award (2007-2008) of the University of Mumbai. The College has been bestowed with IMC "Ramkrishna Bajaj Performance Excellence Trophy", 2010.

The Principal of the college was awarded "Best Teacher" by Government of Maharashtra in 2011.

Government of Maharashtra conferred the college with "JAAGAR JAANIVANCHA" (First in Mumbai Suburban- in 2013 and Second in Mumbai Suburban- in 2014) for safety of girls.

ABOUT US

Course Code: **RJITC04**



Duration: **30** hours

Credits : **02**

ABOUT COURSE

The course aims to teach the basic concept of Artificial Intelligence. It will facilitate the learner to differentiate between human learning and machine learning. It will give an overview of intelligence systems and different research areas in AI domain. A few applications of AI are elaborately explained in the course.





COURSE OBJECTIVE

The course is designed to give a complete overview of Artificial Intelligence. After completion of the course learners will be able to orient themselves in any specialized branch of AI.

COURSE CONTENT

<p>Unit I</p>	<p>Overview: What is AI? History of AI, Goals of AI, Components of AI, AI Techniques, AI Applications, research areas, AI classification</p> <p>Intelligence and its types, Learning - difference between human and machine learning</p> <p>Agents and Environments: Introduction to different AI Agents, Terminology, Rationality, Structure of AI agents, Model based agents, goal based agents, Utility based agents, Environment, Turing test</p>
<p>Unit II</p>	<p>AI Algorithms : Single Agent Pathfinding problems, Search terminology, Brute Force Search, Depth First, Breadth First, Bidirectional search, Comparison of different test algorithm strategies, Informed Search Strategy, Local Search Algorithm: Hill climbing, local beam search, Simulated Annealing, Travelling Salesman problem</p>
<p>Unit III</p>	<p>Neural Networks: Artificial Neural Networks (ANN) and its structure, types of ANN, working, Machine Learning in ANN, Bayesian Networks, Applications of ANN</p> <p>Natural Language Processing: Components of NLP - NLU & NLG, Terminology used in NLP, Steps in NLP, Implementation aspects - Context free grammar, Top down parser</p>
<p>Unit IV</p>	<p>Fuzzy Logic: Introduction, FLS Architecture, Example, Application Areas, Advantages and disadvantages</p> <p>Expert Systems: Introduction - characteristics and capabilities, components, Limitations, applications, technology, Development of expert system, benefits</p> <p>Robotics: Introduction, Aspects, difference in Robotic programming and other AI programming, Robot Locomotion, components of Robot, Computer Vision, Tasks of Computer vision, Applications</p>

COURSE OUTCOME

- To understand the basic concepts of AI
- Implement AI algorithms
- Understand the AI application in Neural Networks and Natural Language Programming
- Understand AI application in Expert Systems, Fuzzy logic systems and Robotics



EVALUATION

Evaluation		Maximum Marks
Exercise	Algorithm Implementation Exercise	20
Assignment	Assignments based on Concepts	40
Examination	Subjective Question Answers	40

MEDIUM OF INSTRUCTION English

100 MARKS



PASSING 40

WHO SHOULD DO

The learner should have basic knowledge of computer technology. No specific qualification needed. However understanding of a programming language will be advantageous.

IT?