



# R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)

Opposite Ghatkopar Railway Station, Ghatkopar (West), Mumbai 400086, Maharashtra, INDIA.

Website: www.rjcollege.edu.in Email: rjcollege@rjcollege.edu.in Tel No: +91 22 25151763 Fax No: +91 22 25150957

College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956

Affiliated to UNIVERSITY OF MUMBAI II NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

## Notice

The department of Information Technology is conducting a value-added course on 'Artificial Intelligence' for 2 credits from 18th May 2021 to 28th May 2021 for TY BSc. IT students. The course covers basic and advanced topics which come under the umbrella of Artificial Intelligence. Interested students are requested to register for the same in the department.

### AI Value added course schedule 20-21:

Ramniranjan Jhunjhunwala College, Ghatkopar (W), Mumbai

Department of Information Technology

Schedule for Value Added Course in AI

Day	Date	Time	Unit	Topic	Faculty Member	Activity		Duration
Tuesday	18/05/2021	10: AM - 12:00	I	Overview of AI	Archana Bhide	Reading	2 + 1 Hrs	3 Hrs
Wednesday	19/05/2021	10: AM - 12:00	II	AI Algorithm Part 1	Prachi Surve	Programming	2+2 Hrs	4 Hrs
Thursday	20/05/2021	10: AM - 12:00	II	AI Algorithm Part 2	Aditi Prajapati	Programming	2+2 Hrs	4 Hrs
Friday	21/05/2021	10: AM - 12:00	II	AI Algorithm Part 3	Jeba Roselet	Programming	2+2 Hrs	4 Hrs
Saturday	22/05/2021	10: AM - 12:00	III	AI in Neural Networks	Bharati Bhole	Reading	2 + 1 Hrs	3 Hrs
Sunday	23/05/2021	10: AM - 12:00	III	AI In NLP	Bharati Bhole	Reading	2 + 1 Hrs	3 Hrs
Wednesday	26/05/2021	10: AM - 12:00	IV	AI in Expert System	Priyasha Sawant	Reading	2 + 1 Hrs	3 Hrs
Thursday	27/05/2021	10: AM - 12:00	IV	AI in Fuzzy Logic System	Punam Sindhu	Reading	2 + 1 Hrs	3 Hrs
Friday	28/05/2021	10: AM - 12:00	IV	AI in Robotics	Archana Bhide	Reading	2 + 1 Hrs	3 Hrs

Total: 30 Hrs

Assignment Submissions and evaluation on 29/5/2021


Exam MCQ format : 30 Marks, 30 MCQ

40 Marks

60 Marks

  
In-Charge



  
Principal  
RAMNIRANJAN JHUNJHUNWALA COLLEGE  
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Ghatkopar (W), Mumbai-400 086, Maharashtra, INDIA

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## Department of Information Technology

### Report On : Artificial Intelligence ( Value Added Course)

Title: Artificial Intelligence

Course Code :RJITC04

Year of Offering :2020-2021

Organized by: Department of IT

Duration :18-05-2021 to 29-05-2021

Number of students enrolled in the year : 54

Number of Students successfully completed the course in the year : 26

Teachers Involved:

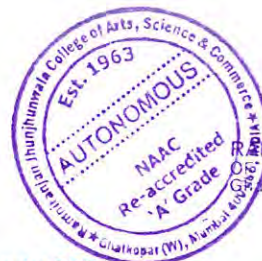
Prof. Archana Bhide, Prof. Bharati Bhole, Prof. Jeba Roselet, Prof. Prachi Surve, Prof. Punam Sindhu, Prof. Priyasha sawant, Prof. Aditi Prajapati

Venue: Online Zoom Platform

Participants: TY IT STUDENTS

Content of session:

The department of Information Technology conducted two credit value added course on Artificial Intelligence from 18th May 2021 to 29th May 2021. The course covered basic topics as well as various other topics which come under the umbrella of Artificial Intelligence . The students from final year attended the course.



Principal

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Value Added Course/Skill Enhancement Course  
College is recognized under Section 2(F) & 12(B) of the UGC Act, 1956

Affiliated to **UNIVERSITY OF MUMBAI** || **NAAC Re-Accredited 'A' Grade (CGPA: 3.50)**  
Artificial Intelligence (RJITC04)

(Credits:2)

## Prerequisite

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

## 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.

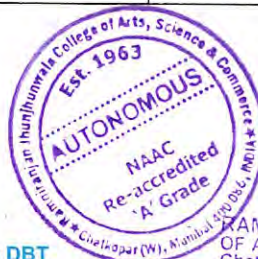
## Course Objective

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 Description

Unit	Objective	Suggested Activities	Duration (Hours)	Mode of Assessment
I	To get an overview to AI	Reading	6	Assignment Quiz
II	To Learn different AI Algorithms	Implementation of algorithms using any programming language	6	Assignment Demonstration
III	To understand application areas of AI - Artificial Neural Networks Natural Language Processing	Reading Implementation of algorithms	6	Assignment Quiz Demonstration
IV	To understand application areas of AI Expert System Fuzzy Logic System Robotics	Reading	6	Assignment Quiz Demonstration

*B/W*



*[Signature]*  
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Course Contents *College is recognized under Section 2(f) & 12(B) of the UGC Act, 1956*

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Unit /Module	Description
I	<p><b>Overview:</b> What is AI? History of AI, Goals of AI, Components of AI, AI Techniques, AI Applications, research areas, AI classification Intelligence and its types, Learning - difference between human and machine learning</p> <p><b>Agents and Environments:</b> Introduction to different AI Agents, Terminology, Rationality, Structure of AI agents, Model based agents, goal based agents, Utility based agents, Environment, Turing test</p>
Unit II	<p><b>AI Algorithms :</b> 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>
Unit III	<p><b>Neural Networks:</b> Artificial Neural Networks (ANN) and its structure, types of ANN, working, Machine Learning in ANN, Bayesian Networks, Applications of ANN</p> <p><b>Natural Language Processing:</b> Components of NLP - NLU &amp; NLG, Terminology used in NLP, Steps in NLP, Implementation aspects - Context free grammar, Top down parser</p>
Unit IV	<p><b>Fuzzy Logic:</b> Introduction, FLS Architecture. Example, Application Areas, Advantages and disadvantages</p> <p><b>Expert Systems:</b> Introduction - characteristics and capabilities, components, Limitations, applications, technology, Development of expert system, benefits</p> <p><b>Robotics:</b> Introduction, Aspects, difference in Robotic programming and other AI programming, Robot Locomotion, components of Robot, Computer Vision, Tasks of Computer vision, Applications</p>

### Text References:

**Artificial Intelligence: A Modern Approach** by Stuart Russal & Peter Norvig

**Artificial Intelligence for Humans** by Jeff Heaton

**Artificial Intelligence the basics** by Kevin Warwick

### Web References:



*BL*

*[Signature]*  
I/c PRINCIPAL

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## Course Outcomes

	Description	Blooms Level
CO1	To understand the basic concepts of AI	
CO2	Implement AI algorithms	
CO3	Understand the AI application in Neural Networks and Natural Language Programming	
CO4	Understand AI application in Expert Systems, Fuzzy logic systems and Robotics	

## Evaluation

		Maximum Marks
Exercise	Algorithm Implementation Exercise	10
Assignment	Assignments based on Concepts	20
Examination	Subjective Question Answers	20

*(Signature)*



*(Signature)*

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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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Mumbai 400 086, Maharashtra, INDIA.



# ABOUT US

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.

**C**ourse Code: **RJITC04**

**D**uration: **30** hours

**C**redits : **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

Unit I	<p><b>Overview: What is AI? History of AI, Goals of AI, Components of AI, AI Techniques, AI Applications, research areas, AI classification</b></p> <p><b>Intelligence and its types, Learning - difference between human and machine learning</b></p> <p><b>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</b></p>
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# 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

English  
MEDIUM OF INSTRUCTION

**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?



Hindi Vidya Prachar Samiti's

## Ramniranjan Jhunjhunwala College of Arts, Science & Commerce

(AUTONOMOUS)

Opp. Ghatkopar railway station, Ghatkopar (W), Mumbai - 400086

Affiliated to UNIVERSITY OF MUMBAI

### CERTIFICATE

This is to certify that Mr. / Ms. **CHAROLE JAY GANESH JAGRUTI**, Roll No. 3 of class T.Y.B.Sc. I.T. has completed a value added course in Artificial Intelligence (RJITC04) of 30 hours conducted by Department of Information Technology from 18/05/2021 to 29/05/2021. He / She has satisfactorily completed the course with all given assignments / evaluation work.

In-charge

Principal

## STUDENT COMPLETED Certificate Course in Artificial Intelligence YEAR 20-21

SR NO	NAME	ROLL NO	CLASS
1	BHAMBURE AKSHADA SANJAY ROHINI	1	TYBSc
2	BUKANN PRAJWAL RAJU SUNITA	2	TYBSc
3	CHAROLE JAY GANESH JAGRUTI	3	TYBSc
4	CHAUHAN KISHAN JANGU SONMATI	4	TYBSc
5	D SOUZA ZENAS SEBASTIAN CYNTHIA	6	TYBSc
6	DEVKAR LEENA RAMDAS SEEMA	8	TYBSc
7	GUPTA DIPESH RAMASHANKAR GUDIYA	10	TYBSc
8	GUPTA SONI SATYANARAYAN REKHA	11	TYBSc
9	LENDE AAKANSHA RAMDAS SUJATA	16	TYBSc
10	MALUSARE NIKITA VILAS SUNITA	17	TYBSc
11	MISHRA SUCHI SHRIKRISHNA MEERA	21	TYBSc
12	PAL ANJALI RAMCHANDRA	22	TYBSc
13	PAL ANKITA AMRITLAL LALTI	23	TYBSc
14	PAWAR SIDDHESHA LAXMAN ASHA	25	TYBSc
15	PRAJAPATI SONU RADHESHYAM UMARAVATI	26	TYBSc
16	ROY ABHIJIT ATIN ANJU	27	TYBSc
17	SAWANT YASH SURESH SANJANA	29	TYBSc
18	SAYYED FURQAN HUSSAIN SAJJAD HUSSAIN TANVEER	30	TYBSc
19	SHUKLA EKTA ANAND GENA	31	TYBSc
20	SINGH CHAHAT AJIT VANDANA	32	TYBSc
21	VEJRE MAYUR DEV MANISHA	36	TYBSc
22	VISHWAKARMA RUBI ASHOK KUMAR MANGLA DEVI	40	TYBSc
23	PANDEY SHIVAM VINODKUMAR SUNITA	43	TYBSc
24	SIDDIQUI ILMA BANO MERAJ AHMED FIROZ	44	TYBSc
25	YADAV ROSHANI SHRI VIJAY KUMAR RADHIKA DEVI	47	TYBSc
26	TIWARI VIMAL SASHIRANJAN PUSHPA	50	TYBSc
27	VERMA AMAN ARAVIND SUMAN	51	TYBSc
28	SHAH SALMAN MOHD ZAKIR QAMRUNNISA	52	TYBSc
29	MD RAHMATULLA MD SHAMIM NAZMA KHATOON	53	TYBSc



  
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