

Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune

Department of Electronic Science
Certificate Course in Artificial Intelligence 2023-24

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**Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune**

Department of Electronic Science

Short-Term Course Artificial Intelligence Report 2023-24

Course Name: Artificial Intelligence

No of Beneficiaries: 14

Name of Coordinator: Ms. Afroj M Dange

Name of Teacher In charge: Ms. Jayshree B Khilari

Objective: To prepare students for innovation in the area of Artificial Intelligence, in two ways: firstly, the creation of innovative techniques and methods within the research area of Artificial Intelligence and, secondly, the application of these techniques and methods relative to social and business reality as well as creating processes and innovative computer solutions.


The Department of Electronic Science has organized Short Term Course on "**Artificial Intelligence**" in the academic year 2023-24. The lecture has been started on 6th December 2023. There are 14 students enrolled in this course. The course has been taken by **Ms. Jayshree B Khilari, Department of Electronic Science**, under the guidance of the Afroj M Dange.

The lectures were conducted offline mode. At the end of the lecture, feedback was also taken. The examination was also conducted on the date 20 March 2024.

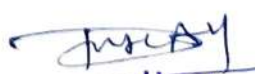
Students benefited from that course. The primary objective of this program is to enhance the skills of students in advanced domains of Information Technology keeping pace with the IT industry. The students may be exposed to the needs of the IT industry so that they can in turn nurture, educate and mould their career while they are still in college.

Outcomes: Students have gained extensive details of subject knowledge along with practical knowledge. Case studies and practical examples enrich concepts on that topic and that will help to make projects.

Enclosed: 1] Photos of Short-term Course
2] BOS Meeting Report


Course Co-ordinator
Ms. A M Dange




Head
Dept. of Electronic Science
A. A. College, Manchar

Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune
Department of Electronic Science

Short Term Course 2023-24

BOS Meeting Report

BOS meeting for short term course on Artificial Intelligence held on 17th November 2022 at 11.30a.m. that are carried out through online mode.

The following persons were present in the meeting:

- 1] Mr. Belage S A, Chairman, DOES, AA College Manchar
- 2] Ms. Shivarkar S Y, Outside Expert (Attended Online)
- 3] Mrs. Patil S S, Outside Expert (Attended Online)
- 4] Ms. Dange A M, Member
- 5] Ms. Khilari J B, Member

At the onset, the Chairman welcomed the members to the in the meeting of BOS and placed the agenda for the deliberations of the members. The following deliberations were made as per the items of the circulated agenda:

1. Finalization of Syllabus for Short term course for FYBSc
2. Total number of credits and marks distribution for the course
3. Any other, with approval of the Chair

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabi.

The members approved the curricula for consideration of Faculty of Electronics. The matter regarding the implementation of this course for academic year 2022-23 was also discussed and it was decided that the new scheme can be implemented for FYBSc students for 3 credits on Artificial Intelligence.

Ms. Dange A M thanked all the members for their kind cooperation and meeting came to end up.




Head
Dept. of Electronic Science
A. A. College, Manchar

Rayat Shikshan Sanstha's
**Annasaheb Awate Arts, Commerce & Hutatma
Babu Genu Science College Manchar, Pune**

Syllabus

For
Short Term Course on Artificial Intelligence
in
Electronic Science

Prepared by

Board of Studies in Electronic Science

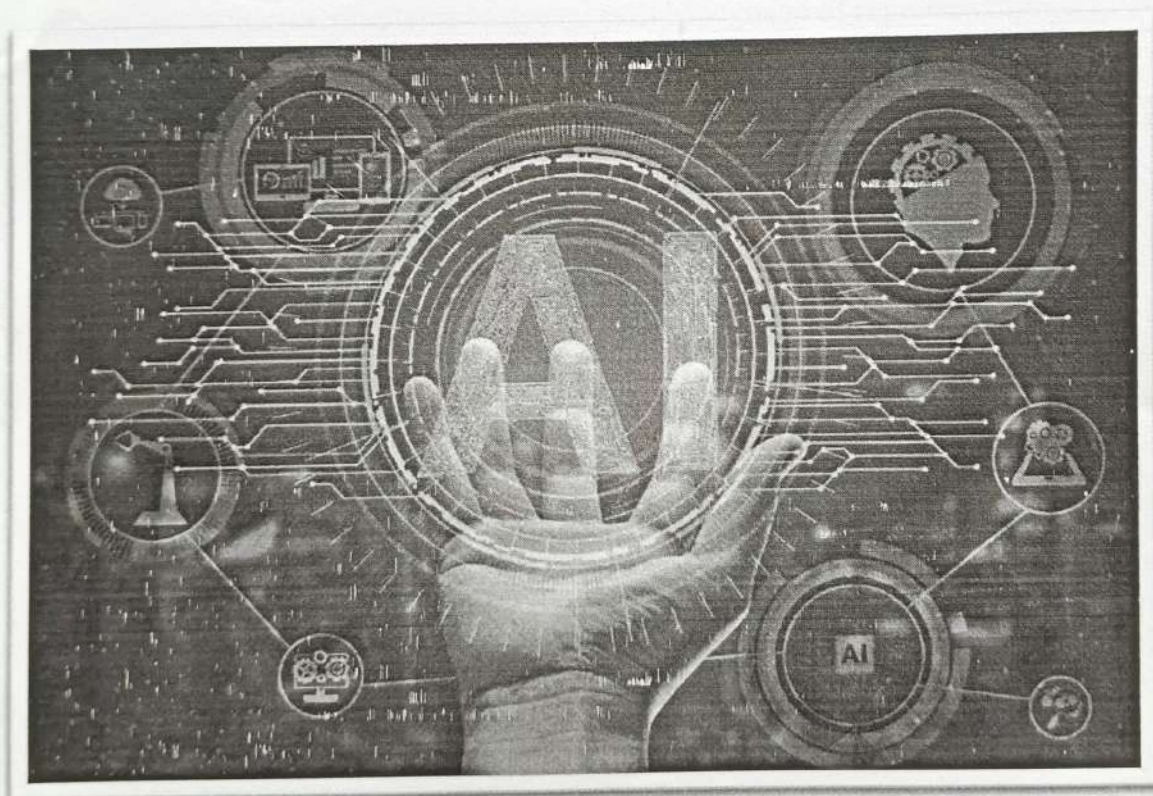
Members

- 1) Miss. Sonali Shivarkar**
HOD, & Assistant Professor
S M Joshi College, Hadapsar-28
- 2) Mrs. S S Patil**
Assistant Professor,
BJS ASC College, Wagholi Pune
- 3) Mr. S.A Belage**
HOD & Associate Professor,
AAC Manchar
- 4) Miss. A.M. Dange**
Assistant Professor,
AAC Manchar
- 5) Miss. J. B. Khilari**
Assistant Professor,
AAC Manchar

Rayat Shikshan Sanstha's

**Annasaheb Awate Arts, Commerce &
Hutatma Babu Genu Science College
Manchar, Pune**

**Short Term Course
on
Artificial Intelligence**



Conducted by

Department of Electronic Science

Rayat Shikshan Sanstha's
Annasaheb Awate Art's, Commerce & Hattatma Babu Genu Science College, Manchar Pune
Department of Electronic Science
Short Term Course 2023-24
Artificial Intelligence
Class- F.Y.B.Sc.

Artificial Intelligence		
Credit: 3		Total Lectures: 45
Course Objectives: <ul style="list-style-type: none">• To learn various types of algorithms useful in Artificial Intelligence (AI).• To convey the ideas in AI research related to emerging technology.• To introduce ideas and techniques underlying the design of intelligent computer systems		
Course Outcomes: After successful completion of this course, learner will be able to: <ul style="list-style-type: none">• Apply the suitable algorithms to solve AI problems• Identify and apply suitable Intelligent agents for various AI applications• Build smart system using different informed search / uninformed search or heuristic approaches• Represent complex problems with expressive language of representation		
	Course Contents	
Unit I	Introduction to Artificial Intelligence	5Hrs
	1.1 Introduction to AI 1.2 Comparison of AI, Machine Learning, Deep Learning 1.3 Applications of AI 1.4 AI Techniques 1.5 Intelligent Agents, Agents and Environments, Structure of Agents	
Unit II	Problems, Problem Spaces and search	5 Hrs
	2.1 Defining problem as a State Space Search 2.2 Production System 2.3 Problem Characteristics 2.4 Search & Control Strategies 2.5 Problems – Water Jug problem, Missionary Cannibal Problem, Block words Problem, Monkey & Banana problem	
Unit III	Searching Algorithms	6 Hrs
	3.1 Uninformed Search Algorithms/Blind Search Techniques 3.1.1 Breadth-first Search 3.1.2 Depth-first Search 3.2 Informed (Heuristic) search Techniques 3.2.1 Generate-and-test 3.2.2 Simple Hill Climbing	



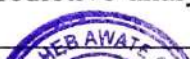
	3.2.3 Best First Search 3.2.4 Constraint Satisfaction 3.2.5 Means End Analysis 3.2.6 A* and AO*	
Unit IV	Knowledge Representation	7 Hrs
	4.1 Definition of Knowledge 4.2 Types of knowledge (Procedural and Declarative knowledge) 4.3 Approaches to Knowledge Representation 4.4 Knowledge representation using Propositional and Predicate logic 4.5 Conversion to clause form 4.6 Resolution in Propositional logic 4.7 Resolution in Predicate logic	
Unit V	Slot and Filler Structures	4 Hrs
	5.1 Weak structures (Semantic networks and Frame) 5.2 Strong structures (Conceptual dependencies and Script)	
Unit VI	Recent Trends in AI and Applications	4 Hrs
	6.1 Introduction to Machine Learning, 6.2 Types of Learning, (Supervised, Unsupervised and Reinforcement Learning), 6.3 Predictive Analytics (Weather Forecasting) 6.4 AI-Powered Chat bots (SBI card chat boot (ILA))	
Practical's		15 H
	Use of Chebesiv Distance Measurement Route Use of Array Use of operating point, entry point, exist point, Operator Program Water Jug problem, Missionary Cannibal Problem, Block words Problem, Monkey & Banana problem Program for Weak structures (Semantic networks and Frame) Strong structures (Conceptual dependencies and Script) Write a program of Predictive Analytics (Weather Forecasting) AI-Powered Chat bots (SBI card chat boot (ILA)) Use of AI	

Reference Books:

- 1) Artificial Intelligence- A Modern Approach (3rd edition)
- 2) Artificial Intelligence By Example-2nd edition
- 3) Artificial Intelligence Engines: A Tutorial Introduction to the Mathematics of Deep Learning
- 4) Artificial Intelligence and Machine Learning 1st Edition
- 5) A First Course in Artificial Intelligence
- 6) Artificial Intelligence: A Modern Approach , Russel & Norving Pearson Education

E-Reference:

- 1) <https://www.oracle.com/in/chatbots/what-is-a-chatbot/>
- 2) <https://www.dataversity.net/case-study-predictive-analytics-and-science-keep-an-eye-on-the-weather/>



Rayat Shikshan Sanstha's

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune

Department of Electronic Science

NOTICE

Date – 04/12/2023

All students of F.Y.B.Sc. are hereby informed that the Short-Term Course on “Artificial Intelligence” will commence from **06/12/2023**. All the students of this course should remain present for the classes and practicals as per the timetable. It is mandatory for all enrolled students.


Venue: Electronic Science Lab

Time: 10.00 AM to 11.00 AM


Coordinator




Head
Dept. of Electronic Science
A. A. College, Manchar

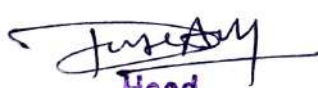

Principal
Annasaheb Awate College,
Manchar, Dist. Pune

Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune

Short Term Course on Artificial Intelligence
For
First Year B.Sc. Electronic Science
2023-24

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			Theory	Theory	Practical	




Head
Dept. of Electronic Science
A. A. College, Manchar

Certificate Course in Artificial Intelligence

Class: FYBSc

Co-ordinated by	Department of Electronic Science
Co-ordinator	Ms. A M Dange
Faculty	Ms. A M Dange Ms. J B Khilari
Batch Capacity	14
No of Students Admitted	14
Duration of the Course	3 Months
Scope of the Course <ul style="list-style-type: none">• To learn various types of algorithms useful in Artificial Intelligence (AI).• To convey the ideas in AI research related to emerging technology.• To introduce ideas and techniques underlying the design of intelligent computersystems	




Head
Dept. of Electronic Science
A. A. College, Manchar

Rayat Shikshan Sanstha's

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College,
Manchar, Tal. Ambegaon, Dist. Pune PIN 410503

Certificate Course Science Faculty Academic Year 2023-24

NOTICE

Date: 23/10/2023

All Head of the Science Faculty are here by informed that during academic year 2023-24 all Science Short Term Courses and students strength are decided below pattern. All should prepare Short Term Course Time Table and conduct the Course and keep records in their respective department.

SN	Dept.	Certificate Course Title	Class and Batch Name	Students Roll Nos.	Total
1	Electronics	Certificate Course in Artificial Intelligence	F. Y. B. Sc. Batch A+B	4001 to 4010 4011 to 4018 4019 to 4021	21
2	Botany	Certificate Course in Organic Farming	F. Y. B. Sc. Batch C	4051 to 4065 4011 to 4013	18
3	Zoology	Certificate Course in Apiculture	F. Y. B. Sc. Batch D	4066 to 4080 4014 to 4016	18
4	Chemistry	Certificate Course in Dairy Science	F. Y. B. Sc. Batch E	4081 to 4095 4017 4019 to 4020	18
5	Physics	Certificate Course in Basic GIS and Remote Sensing	F. Y. B. Sc. Batch F	4096 to 4110 4021 to 4022	17
6	Biotech.	Certificate Course in Plant Tissue Culture	F. Y. Biotech.	1 to 6	06


Chairman

Short Term Course Committee




Principal

Annasaheb Awate College,
Manchar, Dist. Pune

Department of Electronic Science

Short Term Course - 2023-24

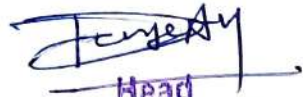
Certificate Course in Artificial Intillgence

Class: FYBSc

List of Students

Sr. No	Roll No	Student Name	Gender	Phone No.
1	4001	BAHIRAM AVINASH RATILAL	M	9022033185
2	4002	BANKHELE ADESH MANGESH	M	7219217740
3	4004	BORHADE TANMAY JAGANNATH	M	7083723455
4	4005	CAHSKAR DNYANESHWARI SANDIP	F	
5	4008	KANASKAR SNEHA PRALHAD	F	7410124882
6	4011	PEKARI ROHIT DHONDU	M	8767303579
7	4013	SHAIKH SOHEL KHAJABHAI	M	8446448613
8	4014	SHINDE SARVESH DEVIDAS	M	
9	4015	HILE AMRUTA SANJEEVKUMAR	F	9699792080
10	4016	VADEKAR SHREYASH GANESH	M	9356206296
11	4017	WABLE SAKSHI SUNIL	F	9096654344
12	4019	KALE KALYANI VIKAS	F	
13	4021	SABALE NISHA DATTATRAY	F	918262083
14	4096	SHINDE PRATIKSHA DIPAK	F	




Head
Dept. of Electronic Science
A.A. College, Manchar

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College Manchar

Department of Electronic Science

Short Term Course - 2023-24

Short Term Course in Artificial Intelligence

Class: FYBSc

Theory Attendance

Sr. No	Roll No	Student Name	25/11/24	31/11/24	1/12/24	2/12/24	7/12/24	8/12/24	14/12/24	15/12/24	21/12/24	22/12/24	28/12/24	1/1/24	6/1/24	7/1/24	13/1/24
1	4001	BAHIRAM AVINASH RATILAL					A					A				A	
2	4002	BANKHELE ADESH MANGESH						A						A			
3	4004	BORHADE TANMAY JAGANNATH	Borha	Borha	Borha	Borha	Borha	Borha	Borha	A	Borha	Borha	Borha	Borha	Borha	Borha	Borha
4	4005	CAHSKAR DNYANESHWARI SANDIP	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska	cahska
5	4008	KANASKAR SNEHA PRALHAD	kanas	kanas	A	A	A	A	kanas	kanas	A	A	A	kanas	A	A	kanas
6	4011	PEKARI ROHIT DHONDU	A	A	RP	RP	RP	A	A	A	A	A	RP	RP	A	A	RP
7	4013	SHAIKH SOHEL KHAJABHAI	shaik	shaik	shaik	shaik	shaik	shaik	shaik	shaik	shaik	shaik	A	shaik	shaik	shaik	shaik
8	4014	SHINDE SARVESH DEVIDAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	4015	HILE AMRUTA SANJEEVKUMAR	hile	hile	hile	hile	hile	hile	A	A	A	A	A	A	A	A	A
10	4016	VADEKAR SHREYASH GANESH	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey	shrey
11	4017	WABLE SAKSHI SUNIL	wable	wable	wable	wable	wable	wable	A	wable	wable	wable	wable	wable	wable	wable	wable
12	4019	KALE KALYANI VIKAS	kalyan	kalyan	kalyan	kalyan	kalyan	A	kalyan	kalyan	kalyan	kalyan	kalyan	kalyan	kalyan	kalyan	kalyan
13	4021	SABALE NISHA DATTATRAY	A	A	A	sable	sable	A	A	A	A	A	sable	sable	sable	A	A
14	4096	Shinde Pratiksha	shinde	shinde	shinde	shinde	shinde	shinde	shinde	shinde	shinde	A	shinde	shinde	shinde	shinde	shinde

In charge : Archana

Head
 Dept. of Electronic Science
 A. A. College, Manchar

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College Manchar

Department of Electronic Science

Short Term Course - 2023-24

Short Term Course in Artificial Intelligence

Class: FYBSc

Theory Attendance

Sr. No	Roll No	Student Name	6/12/23	7/12/23	13/12/23	14/12/23	20/12/23	21/12/23	27/12	28/12	31/1/24	4/1/24	10/1/24	11/1/24	17/1/24	18/1/24	24/1/24
1	4001	BAHIRAM AVINASH RATILAL				A							A				
2	4002	BANKHELE ADESH MANGESH	Bankhele	Bankhele	A	Bankhele	Bankhele	A	A	Bankhele	A	Bankhele	Bankhele	Bankhele	A	Bankhele	Bankhele
3	4004	BORHADE TANMAY JAGANNATH					A									A	
4	4005	CAHSKAR DNYANESHWARI SANDIP	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	A	Caahskar	Caahskar	Caahskar	Caahskar
5	4008	KANASKAR SNEHA PRALHAD	Sneha	A	A	Sneha	A	A	Sneha	Sneha	A	A	A	Sneha	Sneha	A	Sneha
6	4011	PEKARI ROHIT DHONDU	A	A	RP	A	A	A	RP	RP	A	A	RP	A	A	A	RP
7	4013	SHAIKH SOHEL KHAJABHAI	Shai	Shai	Shai	A	Shai	Shai	A	Shai	Shai	Shai	A	Shai	Shai	Shai	A
8	4014	SHINDE SARVESH DEVIDAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	4015	HILE AMRUTA SANJEEVKUMAR	Amr	Amr	Amr	Amr	Amr	Amr	Amr	A	Amr	Amr	Amr	A	A	Amr	Amr
10	4016	VADEKAR SHREYASH GANESH	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey	Shrey
11	4017	WABLE SAKSHI SUNIL	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	A	Wable	Wable
12	4019	KALE KALYANI VIKAS	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani
13	4021	SABALE NISHA DATTATRAY	A	A	A	Sable	A	A	Sable	A	Sable	Sable	A	A	A	A	Sable
14	4096	Shinde Pratiksha	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	A	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde

Incharge : Dr. Chitambar

Dr. Chitambar
Head
Dept. of Electronic Science
A. A. College, Manchar

Rayat Shikshan Santha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College Manchar
Department of Electronic Science

Short Term Course - 2023-24
Short Term Course in Artificial Intelligence

Class: FYBSc

Practical Attendance

Sr. No	Roll No	Student Name	8/12/23	15/12/23	22/12/23	29/12/23	5/1/24	12/1/24	19/1/24	26/1/24	2/2/24	9/2/24	16/2/24	23/2/24	30/2/24	6/3/24	13/3/24	20/3/24	27/3/24
1	4001	BAHIRAM AVINASH RATILAL																	
2	4002	BANKHELE ADESH MANGESH	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	A	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele	Bankhele
3	4004	BORHADE TANMAY JAGANNATH					A		Borhade	Borhade	Borhade	Borhade	Borhade	Borhade	Borhade	Borhade	Borhade	Borhade	Borhade
4	4005	CAHSKAR DNYANESHWARI SANDIP	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar	Caahskar
5	4008	KANASKAR SNEHA PRALHAD	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar	Kanaskar
6	4011	PEKARI ROHIT DHONDU	A	A	RP	RP	A	A	A	A	Pekari	Pekari	Pekari	Pekari	Pekari	Pekari	Pekari	Pekari	Pekari
7	4013	SHAIKH SOHEL KHAJABHAI	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai	Shai
8	4014	SHINDE SARVESH DEVIDAS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	4015	HILE AMRUTA SANJEEVKUMAR	A	A	A	A	A	A	Hile	Hile	Hile	Hile	Hile	Hile	Hile	Hile	Hile	Hile	Hile
0	4016	VADEKAR SHREYASH GANESH	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar	Vadekar
1	4017	WABLE SAKSHI SUNIL	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable	Wable
2	4019	KALE KALYANI VIKAS	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani	Kalyani
3	4021	SABALE NISHA DATTATRAY	A	A	A	A	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale	Sabale
4	4096	Shinde Pratiksha	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde	Shinde

Incharge : Pratiksha



Head
Dept. of Electronic Science
A. A. College, Manchar

Rayat Shikshan Sanstha's
Anasahab Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune

Department of Electronic Science
Certificate Course in Artificial Intelligence 2023-24


EXAM NOTICE

Date – 14/03/2024

All students of F.Y.B.Sc. are hereby informed that the Short-Term Course Exam on “**Artificial Intelligence**” will be held on **20 March 2024**. All the students of this course should remain present for the Exam. It is mandatory for all enrolled students.


Course Co-ordinator




Head
Dept. of Electronic Science
A. A. College, Manchar