Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune
Department of Electronic Science
Certificate Course in Artificial Intelligence 2022-23

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Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College Manchar, Pune
Department of Electronic Science
Short Term Course Artificial Intelligence Report 2022-23

Course Name: Artificial Intelligence	
No of Beneficiaries: 16	
Name of Coordinator: Ms. Afroj M Dange	
Name of Teacher In charge: Ms. Jayashree 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 2021-22. The lecture has been started on 2nd February 2023 via online mode. There are 16 students enrolled in this course. The course has been taken by **Ms. Jayashree B Khilari, Department of Electronic Science,** under the guidance of the and 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 3rd May 2023.
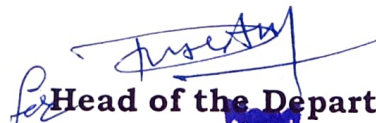
Students benefited from that course. The primary objective of this program is to enhance the skills of students in advanced domains of Information Technology keeping pace with the IT industry. The students may be exposed to the needs of the IT industry so that they can in turn nurture, educate and mold 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 concept on that topic and that will help to make projects.

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

Ms. Afroj M Dange
Course Co-ordinator

for **Head of the Department**
Dept. of Electronics Science
A. A. College, Manchar

Certificate Course in Artificial Intelligence
Class: FYBSc

Co-ordinated by	
Co-ordinator	Department of Electronic Science
Faculty	Ms. A M Dange
	Mr. S A Belage
Batch Capacity	Ms. J B Khilari
	16
No of Students Admitted	
	16
Duration of the Course	
	3 Months
Scope of the Course	

- 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

Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College Manchar, Pune
Department of Electronic Science
Short Term Course 2022-23
BOS Meeting Report

BOS meeting for short term course on Artificial Intelligence held on 17th November 2022 at 11.30 a.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 Electronics 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, Hadapsar28
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

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

Rayat Shikshan Santha's
Annasaheb Awate Art's, Commerce& Hutatma Babu Genu Science College, Manchar Pune
Department of Electronic Science
Short Term Course 2022-23
Artificial Intelligence
Class- F.Y.B.Sc.

Artificial Intelligence

Credit: 3

Course Objectives:

Total Lectures: 45

- 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:

- 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**	
	4.1 Definition of Knowledge	**7 Hrs**
	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 Proposition al logic	
	4.7 Resolution in Predicate logic	
Unit V	**Slot and Filler Structures**	
	5.1 Weak structures (Semantic networks and Frame)	**4 Hrs**
	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		**14 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/

Ref. No. 702/2021-22

Date : 12/11/21

To,

Ms. S. Y. Shivarkar,

Assistant Professor,

S M Joshi College, Hadapsar

Pune 411028

Subject: Invitation as a member of Board of Studies in the subject of short term course in Artificial Intelligence.

Respected Madam,

With reference to the subject mention above, we are happy to inform you that the department of Electronic Science of our college is going to start Short Term course in **"Artificial Intelligence."** The duration of course is one months. We cordially invite you as BOS member to design the syllabus for the course the meeting regarding the syllabus formation will be held on 13th November 2021 at 11.30a.m. We here by humbly request you spare the time at attend the meeting we also look forward to the positive response and co-operation from you.

Thanking you and with kind regards.

Yours Sincerely,

Principal
Annasaheb Awate College,
Manchar,Dist.Pune

"Education through self help is our Motto." KARMAVEER
Rayat Shikshan Sanstha's
ANNASAHEB AWATE ARTS, COMMERCE & HUTATMA BABU GENU SCIENCE COLLEGE
Manchar, Tal. Ambegaon, Distt. Pune, Maharashtra - 410 503.

ACCREDITED 'A' BY NAAC

ID. No. - PU/PN/ASC/017/1966   A.I.S.H.E. - C - 41221

FOUNDER
Padmabhushan
Dr. Karmaveer
Bhaurao Patil, D. Litt.

Ref. No. 703/2021-22

Date : 12/11/21

To,

Mrs. S. S. Patil,

Assistant Professor,

BJS ASC College, Wagholi

Pune

Subject: Invitation as a member of Board of Studies in the subject of short term course in Artificial Intelligence.

Respected Madam,

With reference to the subject mention above, we are happy to inform you that the department of Electronic Science of our college is going to start Short Term course in **"Artificial Intelligence."** The duration of course is one months. We cordially invite you as BOS member to design the syllabus for the course the meeting regarding the syllabus formation will be held on 13th November 2021 at 11.30a.m. We here by humbly request you spare the time at attend the meeting we also look forward to the positive response and co-operation from you.

Thanking you and with kind regards.

Yours Sincerely,

Principal.
Annasaheb Awate College,
Manchar, Dist.Pune

NOTICE

Date – 01/02/2023

All students of F.Y.B.Sc. are hereby informed that the Short-Term Course on "Artificial Intelligence" will commence from 02/02/2023. 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: 12.15 PM to 1.15PM

Coordinator

Head
Dept. of Electronice Science
A. A. C Head Manchar

Principal
Annasaheb Awate College,
Manchar, Principal

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
2022-23

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10.00 - 11.00 AM			Theory	Theory	Practical	

Course-Coordinator

for Head
Dept. of Electronice Science
A. A. College, Manchar

Department of Electronic Science
Short Term Course - 2022-23
Certificate Course in Artificial Intillgence
Class: FYBSc
List of Students

Sr. No	Roll No	Student Name	Gender	Phone No.
1	4002	ABHANG PRASAD DILIP	M	9860927100
2	4003	ABHANG SAYALI SACHIN	F	8975216532
3	4004	BHAWARI ADINATH SANTOSH	M	9834938546
4	4005	CHASKAR ATHARV ANIL	M	8625851044
5	4008	CHIKHALE SHWETA TUKARAM	F	9657348127
6	4013	DHARADE VAISHALI SANTOSH	F	8208382074
7	4014	DHENGALE KARISHMA LALCHAND	F	7709962116
8	4020	GAWARI KISHORI TULASHIRAM	F	8010416728
9	4022	GHEVADE SIDDHIKA SANTOSH	F	9022407596
10	4023	GHULE SOMESH NILESH	M	8600580828
11	4026	HULE ASHWINI ANIL	F	7028700725
12	4030	KANADE ATAHRV MOHAN	M	9175336434
13	4032	KAROTE PALLAVI SUBHASH	F	9322737217
14	4035	LOHAKARE POOJA KANTARAM	F	9322342536

for **Head**
Dept. of Electronice Science
A.A. College, Manchar

Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Pune
Department of Electronic Science
Certificate Course in Artificial Intelligence 2022-23

Name of Co-ordinator	Ms. A M Dange
Name of Teachers	Mr. S A Belage
	Ms. A M Dange
	Ms. J B Khilari
Lecture In charge	Ms. J B Khilari

Head of the Department
Dept. of Electronice 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 - 2022-23

Certificate Course in Artificial Intillgence

Class: FYBSc

Theory Attendance

Sr. No	Roll No	Student Name	2/2/23	3/2/23	4/2/23	8/2/23	9/2/23	15/2/23	16/2/23	17/2/23	22/2	23/2	24/2	27/2	28/2	8/3/23	9/3/23
1	4002	ABHANG PRASAD DILIP															
2	4003	ABHANG SAYALI SACHIN															
3	4004	BHAWARI ADINATH SANTOSH	—	—													
4	4005	CHASKAR ATHARV ANIL															
5	4008	CHIKHALE SHWETA TUKARAM															
6	4013	DHARADE VAISHALI SANTOSH															
7	4014	DHENGALE KARISHMA LALCHAND															
8	4020	GAWARI KISHORI TULASHIRAM															
9	4022	GHEVADE SIDDHIKA SANTOSH	—	—													
10	4023	GHULE SOMESH NILESH															
11	4026	HULE ASHWINI ANIL															
12	4030	KANADE ATAHRV MOHAN															
13	4032	KAROTE PALLAVI SUBHASH															
14	4035	LOHAKARE POOJA KANTARAM															

for **Head**
Dept. of Electronice 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 - 2022-23

Certificate Course in Artificial Intillgence

Class: FYBSc

Theory Attendance

Sr. No	Roll No	Student Name	10/3/22	11/3/22	14/3	15/3	16/3	17/3	18/3	21/3	23/3	24/3	28/3	29/3	31/3	5/4/22	6/4/22
1	4002	ABHANG PRASAD DILIP															
2	4003	ABHANG SAYALI SACHIN															
3	4004	BHAWARI ADINATH SANTOSH															
4	4005	CHASKAR ATHARV ANIL															
5	4008	CHIKHALE SHWETA TUKARAM															
6	4013	DHARADE VAISHALI SANTOSH															
7	4014	DHENGALE KARISHMA LALCHAND															
8	4020	GAWARI KISHORI TULASHIRAM															
9	4022	GHEVADE SIDDHIKA SANTOSH															
10	4023	GHULE SOMESH NILESH															
11	4026	HULE ASHWINI ANIL															
12	4030	KANADE ATAHRV MOHAN															
13	4032	KAROTE PALLAVI SUBHASH															
14	4035	LOHAKARE POOJA KANTARAM															

for **Head**
Dept. of Electronice 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 - 2022-23

Certificate Course in Artificial Intillgence

Class: FYBSc

Practical Attendance

Sr. No	Roll No	Student Name	2/2/23	3/2/23	7/2/23	8/2/23	8/4/23	10/4	11/4	12/4	13/4	17/4	18/4	19/4	20/4	24/4	25/4
1	4002	ABHANG PRASAD DILIP															
2	4003	ABHANG SAYALI SACHIN															
3	4004	BHAWARI ADINATH SANTOSH															
4	4005	CHASKAR ATHARV ANIL															
5	4008	CHIKHALE SHWETA TUKARAM															
6	4013	DHARADE VAISHALI SANTOSH															
7	4014	DHENGALE KARISHMA LALCHAND															
8	4020	GAWARI KISHORI TULASHIRAM															
9	4022	GHEVADE SIDDHIKA SANTOSH															
10	4023	GHULE SOMESH NILESH															
11	4026	HULE ASHWINI ANIL															
12	4030	KANADE ATAHRV MOHAN															
13	4032	KAROTE PALLAVI SUBHASH															
14	4035	LOHAKARE POOJA KANTARAM															
15	4016	Gadhave Athav Somnath															

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

Annasaheb Awate Arts,Commerce & Hutatma Babu Genu Science College Manchar
Department of Electronic Science
Short Term Course - 2022-23
Certificate Course in Artificial Intillgence
Class: FYBSc
Practical Attendance

Sr. No	Roll No	Student Name	10/4	11/4	12/4	13/4	17/4	18/4	19/4	20/4	21/4	24/4	25/4	26/4	27/4	28/4	2/5
1	4002	ABHANG PRASAD DILIP															
2	4003	ABHANG SAYALI SACHIN															
3	4004	BHAWARI ADINATH SANTOSH															
4	4005	CHASKAR ATHARV ANIL															
5	4008	CHIKHALE SHWETA TUKARAM															
6	4013	DHARADE VAISHALI SANTOSH															
7	4014	DHENGALE KARISHMA LALCHAND															
8	4020	GAWARI KISHORI TULASHIRAM															
9	4022	GHEVADE SIDDHIKA SANTOSH															
10	4023	GHULE SOMESH NILESH															
11	4026	HULE ASHWINI ANIL															
12	4030	KANADE ATAHRV MOHAN															
13	4032	KAROTE PALLAVI SUBHASH															
14	4035	LOHAKARE POOJA KANTARAM															

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

EXAM NOTICE

Date – 29/04/2023

All students of F.Y.B.Sc. are hereby informed that the Short-Term Course Exam on **"Artificial Intelligence"** will be held on **May 03, 2023**. 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 Electronice Science
A. A. College, Manchar

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

Department of Electronic Science

Short Term Course - 2022-23

Class: F.Y.B.Sc.

Certificate Course in Artificial Intillgence

Exam Attendance

Date: 3/5/2023

Sr. No	Roll No	Student Name	Signature
1	4002	ABHANG PRASAD DILIP	Abhang
2	4003	ABHANG SAYALI SACHIN	Abhang
3	4004	BHAWARI ADINATH SANTOSH	Adinath
4	4005	CHASKAR ATHARV ANIL	Atut
5	4008	CHIKHALE SHWETA TUKARAM	Shikhale
6	4013	DHARADE VAISHALI SANTOSH	Dharade
7	4014	DHENGALE KARISHMA LALCHAND	Dhengale
8	4020	GAWARI KISHORI TULASHIRAM	Gaway
9	4022	GHEVADE SIDDHIKA SANTOSH	—
10	4023	GHULE SOMESH NILESH	Ghule
11	4026	HULE ASHWINI ANIL	Ashwini
12	4030	KANADE ATAHRV MOHAN	—
13	4032	KAROTE PALLAVI SUBHASH	KaroteP
14	4035	LOHAKARE POOJA KANTARAM	Pooja Lohkare

Course-Co-ordinator

for **Head**
Dept. of Electronice Science
A. A. College, Manchar

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

Department of Electronic Science
Short Term Course - 2022-23
Class: F.Y.B.Sc.

Certificate Course in Artificial Intillgence

Exam Result
Date: 3/5/2023

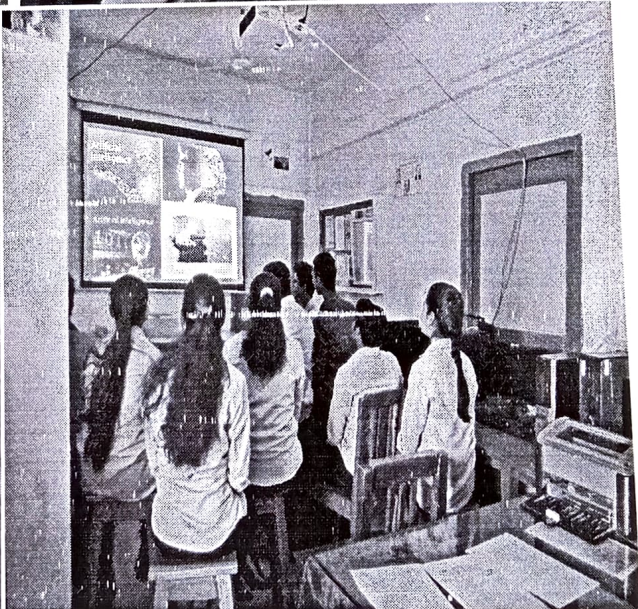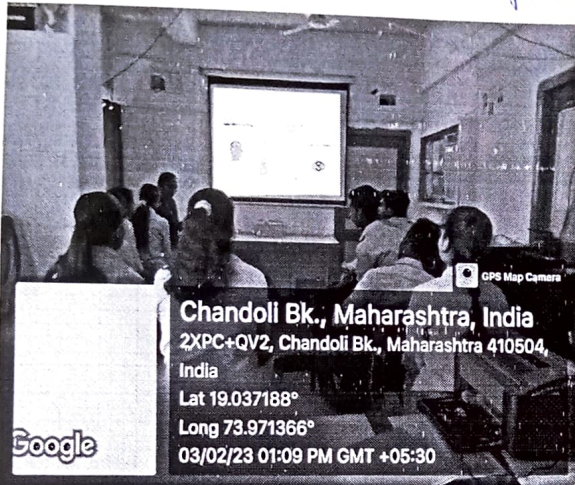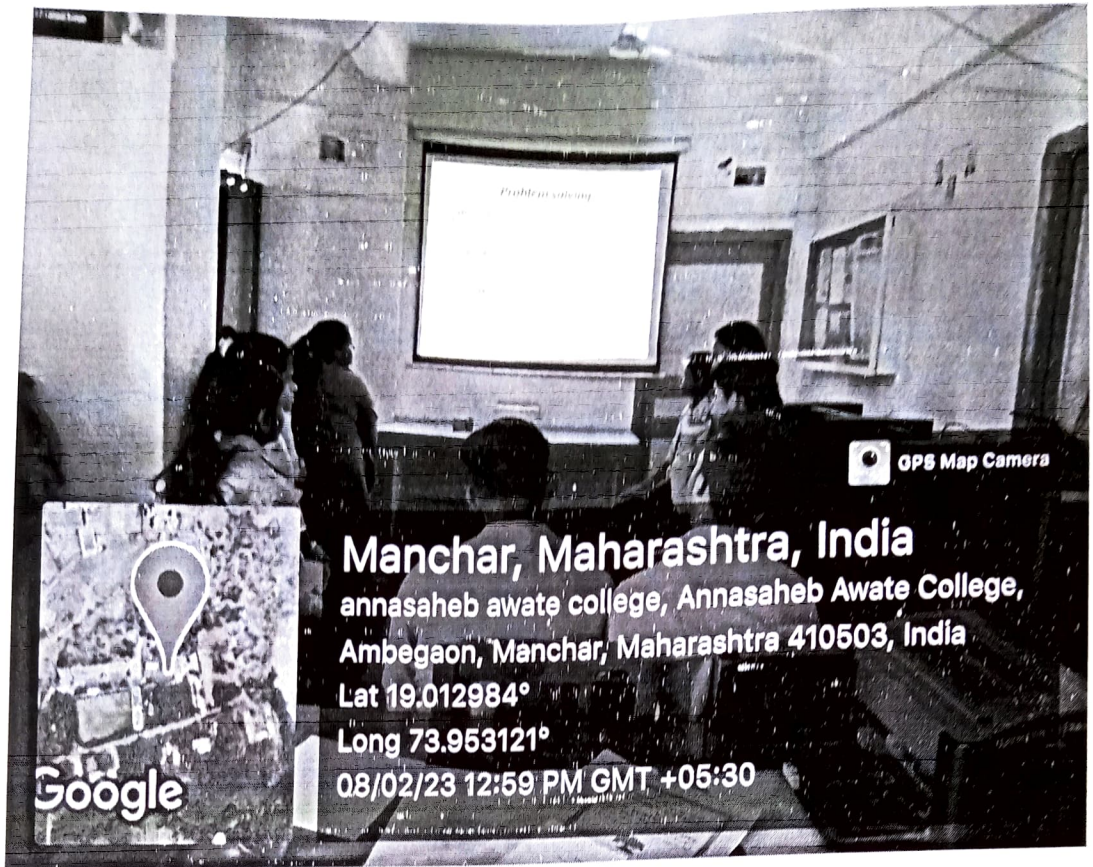| Sr. No	Roll No	Student Name	Marks out of 60	Grades
1	4002	ABHANG PRASAD DILIP	44	A
2	4003	ABHANG SAYALI SACHIN	36	B
3	4004	BHAWARI ADINATH SANTOSH	52	O
4	4005	CHASKAR ATHARV ANIL	52	A
5	4008	CHIKHALE SHWETA TUKARAM	36	B
6	4013	DHARADE VAISHALI SANTOSH	54	A
7	4014	DHENGALE KARISHMA LALCHAND	52	A
8	4020	GAWARI KISHORI TULASHIRAM	58	O
9	4022	GHEVADE SIDDHIKA SANTOSH		
10	4023	GHULE SOMESH NILESH	34	B
11	4026	HULE ASHWINI ANIL	56	O
12	4030	KANADE ATAHRV MOHAN		
13	4032	KAROTE PALLAVI SUBHASH	48	A
14	4035	LOHAKARE POOJA KANTARAM	38	B

Course Coordinator

for Head
Dept. of Electronice Science
A. A. College, Manchar

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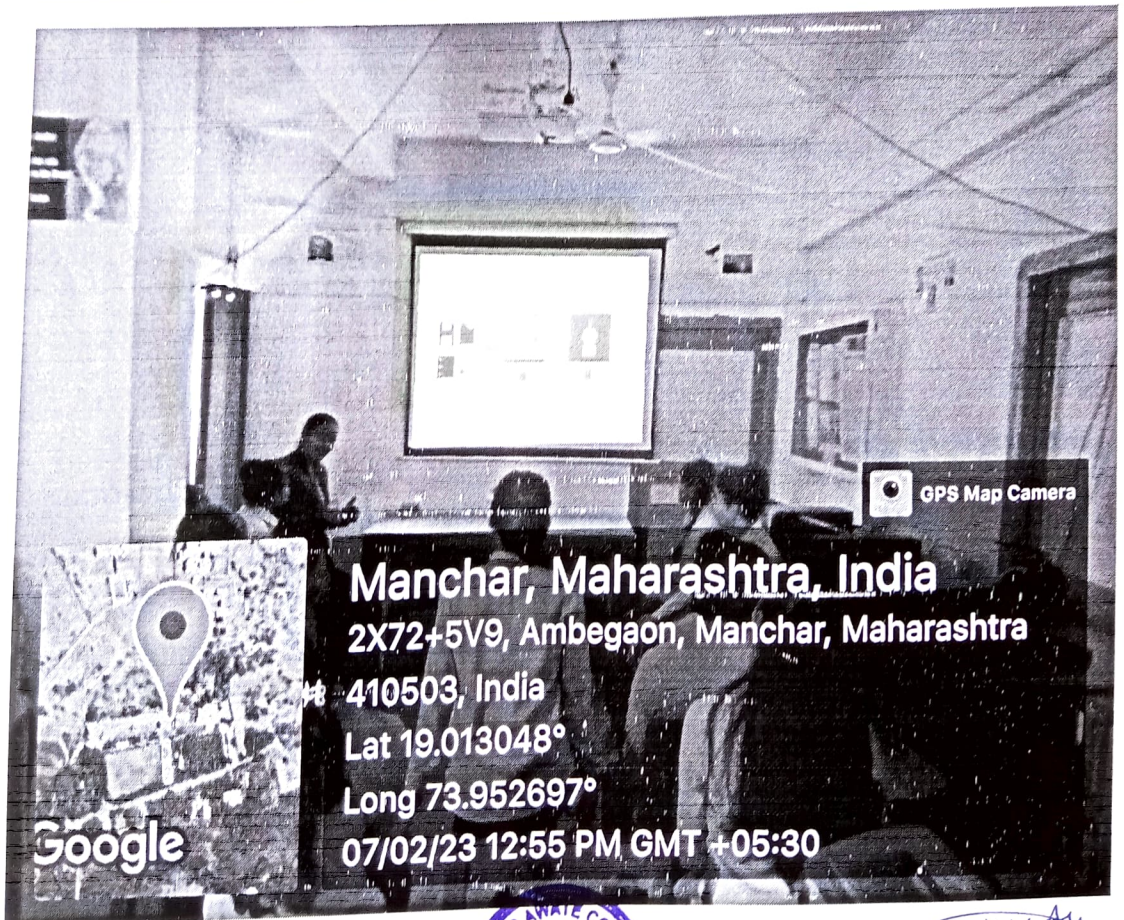# Artificial Intelligence

Photo Gallary

Manchar, Maharashtra, India
annasaheb awate college, Annasaheb Awate College, Ambegaon, Manchar, Maharashtra 410503, India
Lat 19.012984°
Long 73.953121°
08/02/23 12:59 PM GMT +05:30

Manchar, Maharashtra, India
2X72+5V9, Ambegaon, Manchar, Maharashtra 410503, India
Lat 19.013048°
Long 73.952697°
07/02/23 12:55 PM GMT +05:30