



Office of the Principal
Haldia Government College
P.O. Debhog, Dist.: PurbaMedinipur,
Pin – 721657

Notice No 165/HAC

Date.: 23/12/2019

NOTICE

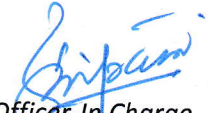
A Value Added Course will be conducted by IQAC of the college for the Academic session: 2019-20. The interested students are instructed to contact the the Course co-ordinator for the eligibility criteria and enrolment of the course within one week from the publication of this notice. The concerned coordinator are requested to complete the course in due time.

Name of the Value Added Course: **Fundamentals of Machine Learning and Artificial Intelligence**

Course Co-Ordinator: Dr. Debolina Das, Assistant Professor of Physics

Eligible Students: All BSc(H) students of Semester-IV and Semester-VI & Postgraduate students of Chemistry and Geography.

Tentative Schedule: February-March'2020.


Officer-In Charge
Haldia Government College
Officer-in-charge
Haldia Government College
P.O. Debhog, Dist- Purba Medinipur



About the course:

The course aims to provide a basic understanding of the fundamental theory of machine learning and artificial intelligence. It will also give a hands-on training about their application protocol in real life situations.

Course Duration:

8 weeks course, 4 hours per week for 8 weeks. Total 32 contact hours

Faculty:

Dipankar Sadhukhan
Assistant Professor
Department of Mathematics
Haldia Government College

Tanmay Maity
Assistant Professor
Department of Statistics
Haldia Government College

Dipankar Pramanik
Assistant Professor
Department of Chemistry
Haldia Government College

Sarbeswar Halder
Assistant Professor
Department of Geography
Haldia Government College

Debolina Das
Assistant Professor
Department of Physics
Haldia Government College

**VALUE-ADDED COURSE
ON**

Fundamentals of Machine Learning & AI

(January – March, 2020)



Course Coordinator:

Debolina Das,
Assistant Professor
Department of Physics
Haldia Government College

Eligibility:

Students pursuing B.Sc. course

Registration Details:

Enrolment is mandatory for all participants. For enrolment contact Dr. Debolina Das.

Last date of enrolment: 15th January, 2020
Certificate after Completion of Course

Debolina Das
Assistant Professor
West Bengal Education Service
Haldia Government College
Haldia, Purba Medinipur
Pin-721657

Dipankar
Officer-in-charge
Haldia Government College
P.O. Debhog, Dist. Purba Medinipur



Course Content

Module 1 (2 hours)

Elements of Machine Learning

Supervised, unsupervised and Reinforcement learning: basic concepts, Understanding the data: What is it telling us? Prediction: What is going to happen? Decision making: What should we do? Causal inference: Did it work?

Module 2 (2 hours)

Data Exploration: Structured Data

Types of Unsupervised learning: Basic concepts of Clustering and Association, Dimensionality projection on structured data. Asking the right question to understand the data. Performing exploratory data analysis using PCA. Clustering the data through K-means and DBSCAN clustering.

Module 3 (2 hours)

Prediction methods: Regression

Types of Supervised learning: Basic concept of Regression and Classification, The idea of regression and predicting a continuous output, how to quantify degree of uncertainty, what to do when you do not have enough data. Understanding the Decision Tree Model, Ensemble learning and Bagging.

Module 4 (4 hours)

Basic concept of model building

Training of a dataset, Training, Validation test dataset, Generalization. Understanding business application of Natural Language Processing. Recommendation systems and

Collaborative Filtering. Temporal Data and Time Series Forecasting.

Module 5 (8 hours)

Prediction Methods: Basics of Neural Networks

Different types of neural networks, introduction of non-linearities into encoding and predictive process through hierarchical structure, cost function and gradient descent, concept of back propagation cycle, applications of neural network technique, Some recent trends.

Module 6 (2 hours)

Computer Vision Methods

Convolutional neural network CNN, Locality and translation invariance, feature extraction.

Module 7 (12 hours)

Application of Machine Learning & AI

Application of Machine Learning & AI in different fields, Some case studies like:

- Customer churn prediction
- Market basket analysis
- Predicting prices for Airbnb
- Loan application classification
- House price prediction
- Computer price estimation
- ML case study on Dell, Harley-Davidson etc.

Debolina Das
Assistant Professor
West Bengal Education Service
Haldia Government College
Haldia, Purba Medinipur
Pin-721657

Snipani
Officer-in-charge
Haldia Government College
P.O.-Debhog, Dist- Purba Medinipur



Course Report

Value Added Course on

Fundamentals of Machine Learning & AI

1. **Name of the course:** *Fundamentals of Machine Learning & AI*
2. **Duration:** 32 hours
3. **Course Coordinator:** Debolina Das
4. **Resource Person:**
 - i) Dipankar Sadhukhan, *Assistant Professor, Department of Mathematics, Haldia Government College*
 - ii) Tanmay Maity, *Assistant Professor, Department of Statistics, Haldia Government College*
 - iii) Dipankar Pramanik, *Assistant Professor, Department of Chemistry, Haldia Government College*
 - iv) Sarbeswar Halder, *Assistant Professor, Department of Geography, Haldia Government College*
 - v) Debolina Das, *Assistant Professor, Department of Physics, Haldia Government College*

5. **Contents:**

- **Module 1 (2 hours)**
Elements of Machine Learning

Supervised, unsupervised and Reinforcement learning: basic concepts, Understanding the data: What is it telling us? Prediction: What is going to happen? Decision making: What should we do? Causal inference: Did it work?

- **Module 2 (2 hours)**
Data Exploration: Structured Data

Types of Unsupervised learning: Basic concepts of Clustering and Association, Dimensionality projection on structured data. Asking the right question to understand the data. Performing exploratory data analysis using PCA. Clustering the data through K-means and DBSCAN clustering.

- **Module 3 (2 hours)**
Prediction methods: Regression

Types of Supervised learning: Basic concept of Regression and Classification, The idea of regression and predicting a continuous output, how to quantify degree of uncertainty, what to do when you do not have enough data. Understanding the Decision Tree Model, Ensemble learning and Bagging.

Debolina Das
Assistant Professor
West Bengal Education Service
Haldia Government College
Haldia, Purba Medinipur
Pin-721657

Dipankar
Officer-in-charge
Haldia Government College
P.O.-Debhog, Dist- Purba Medinipur



- **Module 4 (4 hours)**
Basic concept of model building

Training of a dataset, Training, Validation test dataset, Generalization. Understanding business application of Natural Language Processing. Recommendation systems and Collaborative Filtering. Temporal Data and Time Series Forecasting.

- **Module 5 (8 hours)**
Prediction Methods: Basics of Neural Networks

Different types of neural networks, introduction of non-linearities into encoding and predictive process through hierarchical structure, cost function and gradient descent, concept of back propagation cycle, applications of neural network technique, Some recent trends.

- **Module 6 (2 hours)**
Computer Vision Methods

Convolutional neural network CNN, Locality and translation invariance, feature extraction.

- **Module 7 (12 hours)**
Application of Machine Learning & AI

Application of Machine Learning & AI in different fields, Some case studies like:

- a) Customer churn prediction
- b) Market basket analysis
- c) Predicting prices for Airbnb
- d) Loan application classification
- e) House price prediction
- f) Computer price estimation
- g) ML case study on Dell, Harley-Davidson etc.

6. Objectives

The course aims to provide a basic understanding of the fundamental theory of machine learning and artificial intelligence. It will also give a hands-on training about their application protocol in real life situations.

7. Course outcome

- a) The students will be able to identify problems where artificial intelligence techniques are applicable.
- b) Learners will be able to apply selected basic AI techniques.
- c) The course will enable them to judge the applicability of more advanced techniques.
- d) The students will feel comfortable to participate in the design of systems that act intelligently and learn from experience.

Debolina Das
Assistant Professor
West Bengal Education Service
Haldia Government College
Haldia, Purba Medinipur
Pin-721657

Snipatini
Officer-in-charge
Haldia Government College
P.O.-Debhog, Dist- Purba Medinipur

Haldia Government College

Organizes
Value Added Course
in

Fundamentals of Machine Learning and Artificial Intelligence Session: 2019-2020
(22nd Jan, 2020 to 14th March, 2020)

Sl. No.		Sl no.	Signature
1	Dipankar Bera	32	Mousumi Manna
2	Debnayan Gini	33	Arpita Nay
3	PALAS SAMANTA	34	Buddhadeb Pal
4	Pankaj Kumar Ghunia	35	Baronali Mandal
5	Gouri Sankar Bera	36	Debayyoti Pradhan
6	Subhankar Rana	37	Kaushik Pandit.
7	Sudip Ghosai	38	Mamari Pramanik
8	Trishita Maity	39	Sk Mijan
9	Sobhamay Das	40	Shubham Das
10	Sanjoy Pramanik	41	MUKTIPADA MAHATA
11	Sanjoy Baunja.	42	Sulekha Das
12	Anirban Jana	43	Suparna Kolya
13	Parthasarathi Bhowmik	44	Suparna Roy
14	Monalisa Maiti.	45	Susovan pattanayak
15	Purnima Ruidas	46	Jayita maiti
16	Birashchandra Bhunia	47	Atanu Maity
17	Dipendu Purkait	48	Kalyani Mandal
18	Kalyan Bhunia	49	Malati Pradhan.
19	Katha Kali Gayen	50	Moomita Sau.
20	Mintu Kumar Jana	51	Nilkanta Bayen
21	Mohitash Das.	52	Poojanka Dalal
22	Riu Maity	53	Ritu Nayek
23	Prasenjit Bhunia	54	Shampa Mahata
24	Bitam Panigrahi	55	Sima chakraborty.
25	Sahima Farjahan Akter	56	Sourmen Mondal
26	SHAY Shayan Kalsar	57	Srabani Debnath.
27	Srijan Maity	58	Sumana Giri
28	Samana Pramanik	59	Anup Bhattacharya
29	Susmita DAS	60	Ayan Bhowmick
30	Suvajit Balida	61	Baisakhi Bhargava
31	Swargadut Mondal	62	Debayyoti Kulya

63	Kallol Guchohait	100	Santanu Das
64	Krishnakali Barman	101	Sawoni Panja
65	Krishnendu Maity	102	Sitara Sabnam Begg
66	Nibedita Bhowmik	103	SK. Nasim panvej
67	Muntaha Matin	104	Sn. Sonu
68	Sayantan Bhowmik	105	Sourav Dolai
69	Sh. Mohammad Sahana	106	Sourav Pramanik
70	Subhadip Barui	107	Soulik Goh
71	Subhasis Jana.	108	Suchismita Midya
72	Sudipta Bera.	109	Sudarshan Santra
73	Amima Samanta	110	Yaminara Khatun
74	Abhumia	111	Urmay Muddi
75	A Maity	112	Sukdev Jana.
76	Ahmed Ikbal	113	Aditya Sanapati
77	Bhupal Das	114	Anukul Choud
78	BIKRAM BARMAN Bikram Barman	115	Bhubon Maity
79	DARSHI Parri	116	Subhasanil Maity
80	Debanwita Samanta	117	Kaushik Mahapatra
81	Debika Dhaba	118	Branatosh Mondal
82	Ipsita Sasmal	119	Subhabir Das
83	Hari Pradeep Shit	120	Animesh Guchohait
84	Gobinda Maity	121	Sauvik Das.
85	Jayanta Manna	122	Sayan Acharya
86	Kamal Kumar Bhowmik	123	SNEHASISH BHRUMIK
87	Kusum Kuhu Mondal	124	Poulomi Patra
88	Madan Mukherjee	125	Bhagirathi Mondal
89	Madhurima Betal	126	Sha Saklin Ahmad
90	Mahadev Barman	127	Nikita Mukherjee
91	Manasi Karan	128	Shibananda Jana
92	Mangal Shit	129	Sayani Pradhan
93	Nilay Mondal	130	Somnath Karan
94	Nilanjana Manna	131	Subhabrata Adak
95	Pallabi Patra	132	Supriya Sahoo
96	Pallab Mishra	133	Puspa Sourav Pandey
97	Piyali Sahoo	134	Suryakanta Ghanta
98	Prasanta Bhowmik	135	Arijit Pradhan
99	Rajesh Dandapat	136	Arusikta Jana

137	AYANTIKA SAHOO
138	SOURAV PAL
139	Rupal Chakraborty
140	Sakuntala Manna
141	Sulekha Jena
142	Sagar Dasgupta
143	Amishan Jena
144	Atanu Das
145	Sonali Khila
146	Tanusemi Buehhait
147	Anirjit Bhownik
148	Binoy Kumar Sahoo
149	Salma Akhtar
150	Sima masi
151	Bouddhadeb Bera
152	Biswanath Patra
153	Niladri Maity
154	Kalipada Paul
155	Satyajit Adak
156	Pabitra Chandra
157	Sansip Das
158	Sadananda Bhownik
159	SK Hapizul Rahman
160	Rupam Patra
161	Rajkumari Singha
162	Subhajit Tripathy
163	SK Johongir
164	Sourik Shit
165	SOURAV KPR Sarmah
166	Subhajit Tripathy
167	Subhasram Samanta
168	Sukharanjan Sahu
169	Suman Pal
170	Anita Rani Bera
171	Ajoy Muzum
172	Aniruddha Pramanik
173	Anindita Maji

174	Anindita Sainik	211	Indranil Das
175	Aniruddha Pramanik	212	Sk Sarikul Islam
176	Anita Rani Bera	213	Basudev Nayek
177	Buddhade Bishnupada Das	214	Bharati Halder
178	Buddhadeb Maity	215	Supriya Das Dehsarman
179	Gousanga Maity	216	Karuna Maity
180	Jaganath Singh	217	Piu Ghunia
181	Harani Nayek	218	Pankaj Samanta
182	Jasmina Khatun	219	Suratid Barik
183	Kabila Kayal	220	Sumil Halder
184	Joyashree Bag	221	Monika Bera
185	Manisha Samanta	222	Satinath maity
186	Kison Laiya	223	Snehasis Bhowmik
187	Mitali Jana	224	Sayan Manna
188	Mohan Khutia	225	Souman Khatua
189	Monalisa Maity	226	Saumyakanti Samanta
190	Minati Hansda	227	Vivekanta Mallik
191	Radharani Hatiga	228	Subhasit Mondal
192	Nilansama Sait	229	Soumadip Mondal
193	Palash Manna	230	Chinmoy Mondal
194	Sambhari Hansda	231	Paromita Pramanik
195	Paramita Das	232	Sukalyan Das Choudhury
196	Priyanka Pradhan	233	Tarak Manna
197	Sita Chandra	234	Chinmoy Mondal
198	Nabanita das Barman	235	Paromita Pramanik
199	Sandip Mondal	236	Freida Khatun
200	Shyamkar Grayen	237	
201	Sagor Ahmed Khan	238	
202	Radhim Khatun	239	
203	Sonehrita Laiya	240	
204	Shatarupa Parua	241	
205	Siti GHARAJ	242	
206	SK Mustakin	243	
207	SK Rubel Islam	244	
208	SK Nagim Ahammed	245	
209	Suraj Khatua	246	
210	Subhadip Bera	247	

237	248	Purupapati		
238	249	Sangita Maity		
239	250	Shyulhashis Mallik		
240	251	Akash Maity		
241	252	Ankit Datta		
242	253	Animesh Mandal		
243	254	Pravanjan Samanta		
244	255	Shreya Panda		
245	256	Romiyans Mondal		
246	257	Sagnik Bapat		
247	258	Anubhab Maity		
248	259	Biswadeep Das		
249	260	Anubhab Manna		
250	261	Dabashish Manna		
251	262	Sunila Bhattacharya		
252	263	Surajya Khatun		
253	264	Surajya Samanta		
254	265	Soumen Khatun		
255	266	Vivekananda Mallik		
	267			
	268			
	269			
	270			
	271			

Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm. in the Adm. Reg.	ATTEND																	
				22/01	24/01	25/01	26/01	29/01	31/01	01/02	05/02	08/02	12/02	15/02	19/02	22/02	26/02	29/02	01/03		
1		Debnarayan Gini		1	1	3	1	1	1	3	0	3	1	3	1	0	1	1	0	1	
2		Dipankar Bera		0	1	3	1	1	1	3	1	0	1	3	1	3	1	1	1	3	1
3		Gourisankar Das		1	1	3	0	1	1	3	1	0	1	3	1	0	1	1	3	1	
4		Monalisa Maity		1	1	3	1	1	1	3	1	3	1	3	1	0	1	0	3	1	
5		Palas Samanta		1	1	3	1	1	1	0	1	3	1	3	1	3	1	1	3	1	
6		Pankaj Kumar Bhunia		1	1	3	1	1	1	0	1	3	1	3	1	3	1	1	3	1	
7		Partha Samathi Bhowmik		0	1	3	1	0	1	3	1	3	1	3	1	3	1	1	3	1	
8		Purnima Ruhi Das		1	1	3	0	1	1	3	1	3	1	3	1	3	1	1	3	1	
9		Sanjoy Bhunia		1	0	3	1	1	1	3	1	3	1	3	1	0	1	1	3	1	
10		Sanjoy Pramanik		1	0	3	1	1	1	3	1	3	1	3	1	0	1	1	3	1	
11		Subhamay Das		0	1	3	1	0	1	3	1	3	1	3	1	3	1	0	3	1	
12		Subhankar Rana		1	1	0	1	1	1	3	0	0	1	3	1	3	1	0	3	1	
13		Sudip Ghoshai		1	1	3	1	1	0	3	0	3	1	0	1	3	1	1	0	1	
14		Trishita Maity		0	1	3	1	1	0	3	0	3	1	0	1	3	1	1	0	1	
15		Anirban Jana		1	1	3	1	1	1	3	1	3	1	3	1	3	1	1	3	0	
16		Bivash Chandra Bhunia		1	1	3	0	1	1	3	1	3	1	3	1	3	0	1	3	0	
17		Dipendu Purkait		1	1	0	1	1	1	3	1	3	1	3	1	3	1	0	0	1	
18		Kalyan Bhunia		1	1	0	1	1	1	3	1	3	1	3	1	3	1	0	0	1	
19		Kathakali Gayen		1	1	3	1	1	1	3	1	3	0	3	0	3	1	1	3	0	
20		Mintu Kumar Jana		1	1	3	1	1	1	3	1	3	0	3	0	3	1	1	3	0	
21		Mohitosh Das		0	1	3	1	1	1	3	1	3	1	3	1	3	1	1	3	0	
22		Piu Maity		1	1	3	1	0	0	3	1	3	1	3	1	3	1	1	3	0	
23		Prasenjit Bhunia		1	1	3	0	1	1	3	1	3	1	3	1	3	1	1	3	1	
24		Pritam Panigrahi		1	1	3	1	1	1	3	1	3	1	3	1	3	0	1	3	1	
25		Sahina Farfahan Akter		1	1	0	1	1	1	3	0	3	1	3	1	0	0	0	3	1	
26		Shayan Kalsar		1	1	3	1	0	1	3	0	0	1	0	1	3	1	1	3	1	
27		Srijan Maity		1	1	3	1	1	1	3	1	3	0	0	1	3	1	0	3	1	
28		Sumana Pramanik		1	1	3	1	1	1	3	1	3	0	3	1	3	1	0	3	1	
29		Susmita Das		1	1	3	1	1	1	3	1	3	1	3	1	3	1	1	3	1	
30		Subhajit Balida		1	1	0	1	0	1	3	1	3	1	3	1	3	1	1	3	1	
31		Swarnadut Mondal		1	1	3	1	1	1	3	1	3	1	3	1	3	1	1	3	1	
32		Mousumi Manna		1	1	3	1	1	1	3	1	3	1	3	1	3	1	1	3	1	
33		Anpita Bag		1	0	3	1	1	1	3	0	3	1	3	0	0	1	1	3	1	
34		Barnali Mandal		0	1	3	1	1	1	3	0	3	1	3	0	3	1	1	3	1	
35		Buddhadeb Pal		0	1	3	1	1	1	3	1	0	0	3	0	0	1	1	3	1	
36		Debajyoti Pradhan		1	1	3	1	1	1	3	1	3	0	3	0	3	1	0	0	0	
37		Koushik Pandit		1	0	3	1	1	1	3	1	3	1	3	1	0	1	0	0	1	
38		Manoshi Pramanik		1	1	3	1	1	1	0	0	1	3	1	3	1	3	1	0	1	
39		Muktipada Mahata		1	1	3	1	1	1	0	0	1	3	1	3	1	3	1	1	3	1
40		Shubham Das		1	1	3	0	1	1	1	0	1	3	1	3	1	0	1	1	3	1
41		Sk. Mijan	No. Present daily ...	1	1	3	1	1	1	0	0	3	1	3	1	3	1	1	3	1	
42		Sulekha Das	No. Absent daily ...	1	1	3	1	1	1	3	1	0	1	3	0	3	1	1	3	1	
43		Suparna Kalya	TOTAL ...	0	0	3	1	1	1	3	1	0	1	3	1	3	1	0	3	1	

REGISTER OF ATTENDANCE

FOR THE MONTH

Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm. in the Adm. Reg.	ATTENDANCE											
				22/1	23/1	24/1	25/1	26/1	27/1	28/1	29/1	30/1	31/1	1/2	2/2
44		Supravat Roy		1	1	3	0	1	1	3	1	3	1	3	1
45		Susovan Pattanayak		1	1	3	0	1	1	3	1	3	1	3	1
46		Atanu Maity		1	1	3	1	1	1	0	0	3	1	3	1
47		Kalyani Mandal		1	1	3	1	1	1	0	0	3	1	3	1
48		Jayita Maity		1	1	3	1	1	1	0	2	1	3	1	3
49		Malati Pradhan		1	0	3	1	1	1	0	3	1	3	1	3
50		Moumita Sau		1	1	3	1	1	1	0	3	1	3	1	3
51		Nilkanta Bayen		1	1	3	0	1	0	3	1	3	0	3	1
52		Priyanka Dalai		0	0	3	1	1	1	3	1	3	0	0	1
53		Purnabi Ghoshai		0	1	3	1	1	1	3	1	3	1	0	1
54		Ritu Nayek		0	1	3	1	1	1	3	1	3	1	0	1
55		Shampa Mahata		1	1	3	0	1	1	3	1	0	1	3	1
56		Sima Chakraborty		1	1	3	1	1	1	3	1	0	1	3	1
57		Soumen Mondal		1	1	0	1	1	1	3	1	0	1	3	1
58		Srabani Debnath		1	1	0	1	1	0	3	0	1	3	1	3
59		Sumana Giri		1	1	3	1	1	1	0	1	3	1	0	2
60		Anup Bhattacharya		1	1	3	1	1	1	0	1	3	0	1	0
61		Ayan Bhosmick		1	0	3	1	1	1	3	1	3	0	1	0
62		Baisakhi Bhanasa		1	0	3	1	1	1	3	1	3	1	0	1
63		Debayyoti Kuilya		1	1	3	1	0	1	3	1	3	1	3	1
64		Kallol Guchhait		1	1	3	1	0	1	3	1	3	1	3	1
65		Krishnakali Barman		1	1	3	0	1	1	3	1	3	1	0	1
66		Krishnendu Maity		1	1	3	0	1	1	3	1	3	1	0	1
67		Muntaha Matin		0	1	3	1	1	1	0	0	1	3	1	3
68		Nibedita Bhosmick		0	1	3	1	1	1	3	0	1	3	1	3
69		Sayantan Bhosmick		1	1	3	1	1	1	2	3	1	3	0	1
70		Ok. Mohammad Saharawaz		1	1	3	1	1	0	3	1	3	1	3	1
71		Subhadip Barui		1	1	3	0	1	1	3	1	3	1	3	1
72		Subhasis Jana		1	1	0	1	1	1	3	1	3	1	3	1
73		Sudipta Bera		1	1	3	1	0	1	3	1	3	1	0	1
74		Sunita Bhosmick		1	1	3	1	0	1	3	1	3	1	0	1
75		Suraiya Khatun		1	0	3	1	1	1	3	1	3	0	1	3
76		Subadip Samanta		0	1	3	1	1	1	3	1	3	1	3	1
77		Anima Samanta		0	1	3	1	1	1	3	1	3	1	3	1
78		Animesh Bhunia		1	1	3	1	1	1	3	1	3	1	3	1
79		Anirjit Maity		1	1	0	1	1	1	3	0	3	1	3	1
80		Ashique Iqbal		1	1	3	1	1	1	3	0	3	1	3	1
81		Bhagabati Jana Barman		0	1	3	1	1	1	3	1	3	1	3	1
82		Bharat Das		0	1	3	1	1	1	3	1	3	1	3	1
83		Bikram Barman		1	1	3	1	1	1	3	0	3	1	3	1
84		Debika Dhara	No. Present daily ...	1	1	3	0	1	1	3	1	3	1	3	1
85		Dhruti Pari	No. Absent daily ...	1	1	0	1	0	0	3	1	3	0	3	1
86		Dipankar Samanta	TOTAL ...	0	1	3	1	0	1	3	1	3	1	3	1

REGISTER OF ATTENDANCE

FOR THE MONTH

ATTENDANCE

Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm. in the Adm. Reg.												
				22/10/20	23/10/20	24/10/20	25/10/20	26/10/20	27/10/20	28/10/20	29/10/20	30/10/20	31/10/20	1/11/20	2/11/20
87		Gobinda Maity		1	1	1	1	1	1	1	1	1	1	1	1
88		Haripada Shit		1	1	1	1	1	1	1	1	1	1	1	1
89		Ipsita Basmal		1	1	1	1	1	1	1	1	1	1	1	1
90		Jayanta Manna		1	1	1	1	1	1	1	1	1	1	1	1
91		Kamal Kumar Bhowmik		1	1	1	1	1	1	1	1	1	1	1	1
92		Kusum Kuhu Mondal		1	1	1	1	1	1	1	1	1	1	1	1
93		Madan Murmu		1	1	1	1	1	1	1	1	1	1	1	1
94		Madhuniima Betal		1	1	1	1	1	1	1	1	1	1	1	1
95		Mahadev Barman		1	1	1	1	1	1	1	1	1	1	1	1
96		Manasi Khatun Karan		1	1	1	1	1	1	1	1	1	1	1	1
97		Mangal Shit		1	1	1	1	1	1	1	1	1	1	1	1
98		Nilanjana Manna		1	1	1	1	1	1	1	1	1	1	1	1
99		Nilay Mandal		1	1	1	1	1	1	1	1	1	1	1	1
100		Pallab Mishra		1	1	1	1	1	1	1	1	1	1	1	1
101		Pallabi Patra		1	1	1	1	1	1	1	1	1	1	1	1
102		Pupli Sahoo		1	1	1	1	1	1	1	1	1	1	1	1
103		Prasanta Bhowmik		1	1	1	1	1	1	1	1	1	1	1	1
104		Rajesh Dandapat		1	1	1	1	1	1	1	1	1	1	1	1
105		Santanu Das		1	1	1	1	1	1	1	1	1	1	1	1
106		Sawoni Panja		1	1	1	1	1	1	1	1	1	1	1	1
107		Sitara Sabnam Begg		1	1	1	1	1	1	1	1	1	1	1	1
108		Sk. Nasim Parvej		1	1	1	1	1	1	1	1	1	1	1	1
109		Sk. Sonu		1	1	1	1	1	1	1	1	1	1	1	1
110		Sourav Dalai		1	1	1	1	1	1	1	1	1	1	1	1
111		Sourav Pramanik		1	1	1	1	1	1	1	1	1	1	1	1
112		Souvik Giot		1	1	1	1	1	1	1	1	1	1	1	1
113		Suchismita Midya		1	1	1	1	1	1	1	1	1	1	1	1
114		Sudarsan Santra		1	1	1	1	1	1	1	1	1	1	1	1
115		Sukdev Jana		1	1	1	1	1	1	1	1	1	1	1	1
116		Urmy Mudli		1	1	1	1	1	1	1	1	1	1	1	1
117		Yasminara Khatun		1	1	1	1	1	1	1	1	1	1	1	1
118		Aditya Senapati		1	1	1	1	1	1	1	1	1	1	1	1
119		Anukul chel		1	1	1	1	1	1	1	1	1	1	1	1
120		Bhuban Maity		1	1	1	1	1	1	1	1	1	1	1	1
121		Koushik Mahapatra		1	1	1	1	1	1	1	1	1	1	1	1
122		Pranotesh Mandal		1	1	1	1	1	1	1	1	1	1	1	1
123		Subhadip Das		1	1	1	1	1	1	1	1	1	1	1	1
124		Subhnanil Maity		1	1	1	1	1	1	1	1	1	1	1	1
125		Bhaginath Mondal		1	1	1	1	1	1	1	1	1	1	1	1
126		Nikita Mukhia		1	1	1	1	1	1	1	1	1	1	1	1
127		Poulomi Parua	No. Present daily ...	1	1	1	1	1	1	1	1	1	1	1	1
128		Saklin Ahamed	No. Absent daily ...	1	1	1	1	1	1	1	1	1	1	1	1
129		Sayan Acharya	TOTAL ...	1	1	1	1	1	1	1	1	1	1	1	1

REGISTER OF ATTENDANCE

FOR THE MONTH

ATTENDANCE

Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm. in the Adm. Reg.												
				20/11	21/11	22/11	23/11	24/11	25/11	26/11	27/11	28/11	29/11	30/11	31/11
130		Snehasis Bhaumik		1	1	1	1	1	1	1	1	1	1	1	1
131		Souvik Das		1	1	1	1	1	1	1	1	1	1	1	1
132		Animesh Guchhait		1	1	1	1	1	1	1	1	1	1	1	1
133		Puspasourav Panda		1	1	1	1	1	1	1	1	1	1	1	1
134		Sakuntala Manna		1	1	1	1	1	1	1	1	1	1	1	1
135		Sayani Pradhan		1	1	1	1	1	1	1	1	1	1	1	1
136		Shibanaanda Jana		1	1	1	1	1	1	1	1	1	1	1	1
137		Somnath Karan		1	1	1	1	1	1	1	1	1	1	1	1
138		Sounav Pal		1	1	1	1	1	1	1	1	1	1	1	1
139		Subhabrata Adak		1	1	1	1	1	1	1	1	1	1	1	1
140		Supriya Sahoo		1	1	1	1	1	1	1	1	1	1	1	1
141		Sumyakanta Ghanta		1	1	1	1	1	1	1	1	1	1	1	1
142		Ankjit Pradhan		1	1	1	1	1	1	1	1	1	1	1	1
143		Avisikta Jana		1	1	1	1	1	1	1	1	1	1	1	1
144		Ayantika Sahoo		1	1	1	1	1	1	1	1	1	1	1	1
145		Rupal Chakraborty		1	1	1	1	1	1	1	1	1	1	1	1
146		Sagar Dalapati		1	1	1	1	1	1	1	1	1	1	1	1
147		Salma Akhtar		1	1	1	1	1	1	1	1	1	1	1	1
148		Sima Maji		1	1	1	1	1	1	1	1	1	1	1	1
149		Sonali Kula		1	1	1	1	1	1	1	1	1	1	1	1
150		Sulekha Jana		1	1	1	1	1	1	1	1	1	1	1	1
151		Tanusri Guchhait		1	1	1	1	1	1	1	1	1	1	1	1
152		Anirban Jana		1	1	1	1	1	1	1	1	1	1	1	1
153		Anijit Bhowmik		1	1	1	1	1	1	1	1	1	1	1	1
154		Atanu Das		1	1	1	1	1	1	1	1	1	1	1	1
155		Binoj Kumar Sahoo		1	1	1	1	1	1	1	1	1	1	1	1
156		Biswanath Patra		1	1	1	1	1	1	1	1	1	1	1	1
157		Buddhadeb Bera		1	1	1	1	1	1	1	1	1	1	1	1
158		Kalipada Paul		1	1	1	1	1	1	1	1	1	1	1	1
159		Nitadri Maity		1	1	1	1	1	1	1	1	1	1	1	1
160		Pabitra Chandra		1	1	1	1	1	1	1	1	1	1	1	1
161		Rajkumar Singha		1	1	1	1	1	1	1	1	1	1	1	1
162		Rupam Patra		1	1	1	1	1	1	1	1	1	1	1	1
163		Sadananda Bhowmik		1	1	1	1	1	1	1	1	1	1	1	1
164		Sandip Parua		1	1	1	1	1	1	1	1	1	1	1	1
165		Sankar Prasad Maity		1	1	1	1	1	1	1	1	1	1	1	1
166		Satyajit Adak		1	1	1	1	1	1	1	1	1	1	1	1
167		SK. Hapijul Rahaman		1	1	1	1	1	1	1	1	1	1	1	1
168		SK. Jahangir		1	1	1	1	1	1	1	1	1	1	1	1
169		Sourav Kar		1	1	1	1	1	1	1	1	1	1	1	1
170		Souvik Bhi	No. Present daily ...	1	1	1	1	1	1	1	1	1	1	1	1
171		Subhadip Pradhan	No. Absent daily ...	1	1	1	1	1	1	1	1	1	1	1	1
172		Subhajit Tripathy	TOTAL ...	1	1	1	1	1	1	1	1	1	1	1	1

REGISTER OF ATTEND

FOR THE MONTH

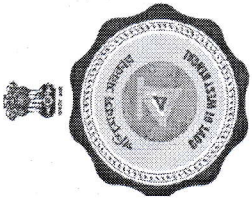
Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm in the Adm. Reg.	ATTEND											
				12/10	25/10	25/10	27/10	28/10	29/10	30/10	01/11	02/11	03/11	04/11	05/11
173		Subharam Samanta		1	0	3	1	0	1	3	1	3	1	3	1
174		Sukharanjan Sau		1	0	3	1	1	1	3	1	3	0	3	1
175		Suman Pal		1	1	3	1	1	1	3	0	3	0	3	1
176		Ajoy Murmu		1	1	3	1	0	1	3	1	3	1	3	1
177		Anindita Maji		1	1	3	1	1	1	3	0	3	1	3	1
178		Anindita Sainik		1	1	3	1	1	1	3	0	3	1	3	1
179		Aniruddha Pramanik		0	1	3	1	1	1	3	1	3	0	3	1
180		Anita Rani Bera		1	1	3	1	1	1	3	1	3	1	3	1
181		Bishnupada Das		1	1	3	0	1	1	3	1	3	1	3	1
182		Buddhadeb Maity		1	1	3	0	1	1	3	1	3	0	3	1
183		Gouranga Maity		1	1	0	1	1	1	3	1	3	1	0	3
184		Narari Nayek		1	1	0	1	1	0	3	1	3	1	3	0
185		Jagannath Singh		1	1	3	1	1	0	3	1	3	1	3	1
186		Jasmina Khatun		1	1	3	1	1	1	3	1	3	1	3	1
187		Jayasri Bag		1	1	3	1	0	1	3	1	3	1	3	1
188		Kabita Kaya		0	1	3	1	1	1	3	1	3	1	0	3
189		Kakali Kabani		0	1	3	1	1	1	3	1	3	0	3	1
190		Kishor Laiya		1	1	3	0	1	1	3	1	3	1	0	3
191		Manisha Samanta		1	1	3	0	1	1	3	1	3	1	3	1
192		Minati Hansda		1	0	3	1	1	1	3	0	3	1	3	1
193		Mitali Jana		1	0	3	1	1	1	3	0	3	1	3	1
194		Mohan Khatun Khutia		1	0	3	1	1	1	3	0	3	1	3	0
195		Monalisha Maity		1	1	3	1	0	0	3	0	3	1	3	0
196		Nabarita Das Barman		1	1	3	1	0	1	3	1	3	1	3	1
197		Nilanjana Shit		1	1	0	1	1	1	3	1	3	1	3	1
198		Palash Manna		1	1	3	1	1	1	3	0	3	1	3	1
199		Paramita Das		0	1	3	1	1	1	3	1	3	1	3	1
200		Priyanka Pradhan		1	1	3	1	1	1	3	1	3	1	3	1
201		Radharani Maity		1	0	3	1	0	1	3	1	3	1	3	1
202		Rahima Khatun		1	1	3	1	1	1	3	1	3	1	3	1
203		Sagir Ahmed Khan		1	1	3	1	1	0	3	1	3	0	3	1
204		Sambari Hansda		1	1	3	1	1	0	3	1	3	0	3	1
205		Sanchaita Laiya		1	1	3	1	1	1	3	0	3	1	3	1
206		Sandip Mondal		1	1	0	1	1	1	3	1	3	1	3	1
207		Shatarupa Parua		1	1	3	1	1	1	3	1	3	0	3	1
208		Shuvankar Gayen		1	1	3	0	1	1	3	1	3	0	3	1
209		Siti Gharai		0	1	3	1	1	1	3	0	3	1	3	1
210		SK Mustakin		1	1	3	1	0	1	3	1	3	1	3	1
211		SK Nagim Ahammed		1	1	3	1	1	1	3	0	3	1	3	1
212		SK Rubel Islam		1	0	3	0	1	1	3	0	3	1	3	1
213		SK Sarikul Islam	No. Present daily ...	1	1	3	0	1	1	3	0	3	1	3	1
214		Bubhadip Bera	No. Absent daily ...	0	1	3	1	1	1	3	1	3	1	3	1
215		Bubriti Das Debsarmar	TOTAL ...	0	1	3	1	1	1	3	1	3	1	3	1

REGISTER OF ATTENDANCE

FOR THE MONTH

ATTENDANCE

			FOR THE MONTH																																
			ATTENDANCE																																
Serial No.	Roll No.	NAME OF PUPILS	Sl. No. & dt. of Adm. in the Adm. Reg.	1/9/21	2/9/21	3/9/21	4/9/21	5/9/21	6/9/21	7/9/21	8/9/21	9/9/21	10/9/21	11/9/21	12/9/21	13/9/21	14/9/21	15/9/21	16/9/21	17/9/21	18/9/21	19/9/21	20/9/21	21/9/21	22/9/21	23/9/21	24/9/21	25/9/21	26/9/21	27/9/21	28/9/21	29/9/21	30/9/21	31/9/21	
6		Suraj khalua		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
17		Surajit Barik		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
18		Susanta Panda		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
19		Tarak Manna		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
20		Basudev Nayek		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
21		Bharati Halder		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
22		Bikash Samanta		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
23		Indranil Das		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
24		Karuna Maity		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
25		Manika Bera		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
26		Pankaj Samanta		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
27		Piu Bhunia		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
28		Satinath Maity		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
29		Saumya Kanti Samanta		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
30		Sayon Manna		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1		Simul Halder		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2		Snehasish Bhowmik		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
3		Soumadip Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
4		Soumyadip Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
5		Subhajit Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6		Sukatgan Das Choudhury		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7		Chinmoy Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8		Farida Khutun		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9		Paromita Pramanik		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
10		Puspa Pati		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
11		Sangita Maity		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
12		Shubhashis Mallik		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
13		Akash Maity		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
14		Animesh Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
15		Ankit Dhara		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
16		Anubhab Maity		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
17		Annab Manna		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
18		Biswadip Das		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
19		Debasish Manna		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
20		Pravanjan Samanta		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
21		Romijans Mondal		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
22		Sagnik Patra		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
23		Shreya Panda		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
24		Soumen Khuta		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
25		Vivekananda Mallik		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No. Present daily ...																																			
No. Absent daily ...																																			
TOTAL ...																																			



Haldia Government College

Debhog, Haldia, Purba Medinipur

Certificate of Value Added Course Completion in

Fundamentals of Machine Learning and Artificial Intelligence

This is to certify that Mr./Miss..... DEBNARAYAN GIRI
college roll no..... PG/VUEGG19/CEM/2019-102
.....of Haldia Government College has successfully completed
32 hours duration Value Added Course in *Fundamentals of Machine Learning and Artificial Intelligence* organized
by Haldia Government College from 22nd January, 2020 to 14th March, 2020 with Grade: **A**

We wish him/her bright future.

Debolina Das

Dr. Debolina Das
Course Co-Ordinator

Pijush Kanti Tripathi

Dr. Pijush Kanti Tripathi
Officer-in-Charge

Officer-in-charge
Haldia Government College
P.O. Debhog, Dist- Purba Medinipur

150
=30
A+

Evaluation Test on
FUNDAMENTALS OF MACHINE LEARNING AND AI
Full marks: 30
Time: 60 min

Multiple Choice Type questions (Tick the right option)

Each question carries 2 marks.

1. What is Artificial Intelligence?
 - a) Artificial Intelligence is a field that aims to make humans more intelligent
 - b) Artificial Intelligence is a field that aims to improve the security
 - ☒ c) Artificial Intelligence is a field that aims to develop intelligent machines
 - d) Artificial Intelligence is a field that aims to mine the data
2. Which of the following is the branch of Artificial Intelligence?
 - ☒ a) Machine Learning
 - b) Cyber forensics
 - c) Full-Stack Developer
 - d) Network Design
3. What is the function of an Artificial Intelligence "Agent"?
 - a) Mapping of goal sequence to an action
 - b) Work without the direct interference of the people
 - ☒ c) Mapping of precept sequence to an action
 - d) Mapping of environment sequence to an action
4. Which of the following is not the commonly used programming language for Artificial Intelligence?
 - ☒ a) Perl
 - b) Java
 - c) PROLOG
 - d) LISP
5. Which of the following is not an application of artificial intelligence?
 - a) Face recognition system
 - b) Chatbots
 - c) LIDAR
 - ☒ d) DBMS
6. What is the starting level of planning graph?
 - a) Level 3
 - b) Level 2
 - c) Level 1
 - ☒ d) Level 0
7. What is called inconsistent support?
 - a) If two literals are not negation of other
 - ☒ b) If two literals are negation of other
 - c) Mutually exclusive
 - d) None of the mentioned
8. A problem in a search space is defined by one of these states:
 - ☒ a) Initial state
 - b) Last state

- c) Intermediate state
d) All of the mentioned
9. Web Crawler is a/an _____
☒ a) Intelligent goal-based agent
b) Problem-solving agent
c) Simple reflex agent
d) Model based agent
10. What is a heuristic function?
a) A function to solve mathematical problems
b) A function which takes parameters of type string and returns an integer value
c) A function whose return type is nothing
☒ d) A function that maps from problem state descriptions to measures of desirability
11. Identify the model which is trained with data in only a single batch.
a) Offline learning
b) Batch learning
☒ c) A and B
d) None of the above
12. Among the following identify the one in which dimensionality reduces.
a) Performance
b) Entropy
c) Stochastics
☒ d) Collinearity
13. Full form of PAC is _____
a) Probably approx. cost
☒ b) Probably approximate correct
c) Probability approx. communication
d) Probably approx. computation
14. The number of total types of the layers in radial basis function neural networks is _____
a) 1
b) 2
☒ c) 3
d) 4
15. What does K stand for in K mean algorithm?
a) Number of clusters
b) Number of data
c) Number of attributes
☒ d) Number of iterations