DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

2nd BOARD OF STUDIES MEETING

Minutes of the meeting
Academic year 2022-2023

DATE	:	14.06.2022
VENUE	:	HRD Conference Hall
MODE	:	Blended
TIME	:	10.00 pm – 12.00 pm

Dr R J Anandhi
Professor and Dean-Academics
New Horizon College of Engineering
Ring Road Bellandur Post,
Bengaluru 560 103

HOD
Department of
Artificial Intelligence and Machine Learning
New Horizon College of Engineering
Ring Road, Bellandur Post, Bangalore - 560 103

1

CONTENTS

AGENDA FOR THE MEETING

1. Welcome address by the chairman of BOS

2. Presentation of draft of Scheme from 3rd to 8th semester (NEP 160 Credit Course), Presentation of draft of Scheme from 5th to 8th semester (175 Credit Course)

3. Proposed course details for the academic year 2022-2023 (NEP)

4. Proposed course details for the academic year 2022-2023 (175)

5. Presentation of Syllabus of Second year (NEP Course) in detail

6. Presentation of Syllabus of Third year (175 credit Course) in detail

7. Recommendations/ Suggestions of BOS members.

8. Implementation of recommendation of BOS members

9. Approval of Scheme & Syllabus of Second year/ Third year AI & ML Engineering Subjects

10. Vote of Thanks by the chairman of BOS

LIST OF MEMBERS

S. No	Category	Nomination of the committee	Name of the person	Designation & Affiliation
1	**Head of the Department**	**Chairperson**	Dr. Uma Reddy N.V.	Professor & HoD (AI&ML) NHCE ,Bangalore hod_aiml@newhorizonindia.edu 9972047259
2	**Special Invitees (one academician from Institution of National Eminence, IIT,NIT,IIM,IISC)**	1	Dr. Manjunatha	Principal, New Horizon College of Engineering, Bangalore principal@newhorizonindia.edu 9901916000
		2	Dr. Anandhi R J	Professor, HoD Dept. of ISE, Dean Academics, NHCE, Bangalore DeanAcademics@newhorizonindia.edu 9845705705
		3	Dr. Naresh Kumar Nagwani	Associate Professor, NIT Raipur, Chhattisgarh. nknagwani.cs@nitrr.ac.in 9993312001
3	**Faculty member at different level with different specialization**	**Members**		
		1	Dr. Rajalakshmi	Professor & HoD, Dept. of CSE, NHCE, Bangalore.hod_cse@newhorizonindia.edu 9841711347
		2	Dr.Asha	Professor & HoD, Dept of MCA, NHCE, Bangalore. ashav@newhorizonindia.edu 9986010118

		3	Dr. Sreejit Panicker	Associate Professor, NHCE, Bangalore dr.sreejitp.nhce@newhorizonindia.edu 8319195400
4	**Subject expert from outside the college nominated by Academic Council**	Members		
		1	Dr. Bharathi M A	Professor & HoD, Dept. of AIML , BMSIT, Bangalore bharathi_m@bmsit.in 9448347885
5	**Experts from outside the college nominated by VTU**	Member		
		1	Dr. Indiramma	Professor, Dept. of CSE, BMSCE, Bangalore. indira.cse@bmsce.ac.in 9663376002
6	**Representative from Industry / Corporate sector / allied area related to placements, nominated by Academic Council**	Members		
		1	Mr. Prasad Chitta	Practice Lead, Machine Intelligence, BFSI Technology Advisory Group. TCS prasad.chitta@tcs.com 9886789545
		Members		
8	**Co-opted members**	1	Ms. Sowmya H K	Sr. Assistant Professor, NHCE ,Bangalore Sowmyahk.nhce@newhorizonindia.edu 9448060784
		2	Ms.Kavyashree C	Sr. Assistant Professor, NHCE ,Bangalore kavyashreec.nhce@newhorizonindia.edu 9739900738

		3	Mr. R. Bhargava	Sr. Assistant Professor, NHCE ,Bangalore bhargavar.nhce@newhorizonindia.edu 9663300824

NEW HORIZON
COLLEGE OF ENGINEERING
New Horizon Knowledge Park, Ring Road, Marathalli
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by NAAC with 'A' Grade, Accredited by NBA

DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

ATTENDANCE SHEET
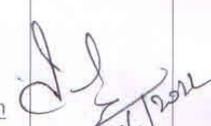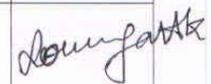
Academic Year 2021-2022

Date: 14/06/2022   Time: 10.00 am to 12.00 pm

LIST OF MEMBERS-BOARD OF STUDIES

No	Category	Nomination of the committee	Name of the person	Designation & Affiliation	Signature
1	Head of the Department	Chairperson	Dr. N.V.Uma Reddy	Professor &HoD (AI&ML) NHCE ,Bangalore hod_aiml@newhorizonindia.edu 9972047259	N.VL ully 14/6/2022
2	Special Invitees (one academician from Institution of National Eminence, IIT,NIT,IIM,IISC)	1	Dr. Manjunatha	Principal, NHCE, Bangalore principal@newhorizonindia.edu 9901916000	Maynthy 14/6/2022
		2	Dr. Anandhi R J	Professor, HoD Dept. of ISE, Dean Academics, NHCE, Bangalore DeanAcademics@newhorizonindia.edu 9845705705	Anandhi 14/6/22
		3	Dr.Naresh Kumar Nagwani	Associate Professor, NIT Raipur, Chhattisgarh. nknagwani.cs@nitrr.ac.in 9993312001	Naghi

	Subject		Members		
3	expert from outside the college nominated by Academic Council	1	Dr. Bharathi M A	Professor &HoD, Dept. of AIML , BMSIT, Bangalore bharathi_m@bmsit.in 9448347885	
	Experts		Member		
4	from outside the college nominated by VTU	1	Dr. Indiramma	Professor, Dept. of CSE, BMSCE, Bangalore. indira.cse@bmsce.ac.in 9663376002	
	Representative from		Members		
5	Industry / Corporate sector / allied area related to placements , nominated by Academic Council	1	Mr. Prasad Chitta	Practice Lead, Machine Intelligence, BFSI Technology Advisory Group. TCS prasad.chitta@tcs.com 9886789545	
			Members		
6	Co-opted members	1	Ms. Sowmya H K	Sr. Assistant Professor, NHCE ,Bangalore	

				Sowmyahk.nhce@newhorizonindia.edu 9448060784	
		2	Ms.kavyashree C	Sr. Assistant Professor, NHCE ,Bangalore kavyashreec.nhce@newhorizonindia.edu 9739900738	
		3	Mr. R. Bhargava	Sr. Assistant Professor, NHCE ,Bangalore bhargavar.nhce@newhorizonindia.edu 9663300824	
		Members			
7	Faculty member at different level with different specialization	1	Dr. Rajalakshmi	Professor &HoD, Dept. of CSE, NHCE, Bangalore.hod_cse@newhorizonindia.edu 9841711347	14.jun.2022
		2	Dr.Asha	Professor &HoD, Dept of MCA, NHCE, Bangalore. ashav@newhorizonindia.edu 9986010118	
		3	Dr.Manikandan S P	Professor &HoD, Dept of CE, NHCE, Bangalore. hod_ce@newhorizonindia.edu	
		4	Mr. Binod Kumar Singh	Head IIIC & CR, NHCE placementofficer@newhorizonindia.edu 9663928931	

| | | | 5 | Dr. Sreejit Panicker | Associate Professor, NHCE, Bangalore dr.sreejitp.nhce@newhorizonindia.edu 8319195400 | |

Welcome address by the chairman of BOS

The 2nd Board of Studies meeting for Department of AI & ML was scheduled on 14.06.2022 at HRD conference Hall, NHCE

At the outset, Chairperson **Dr. NV Uma Reddy** Professor & Head – Department of AI & ML Engineering, welcomed the Members for attending the 2nd Board of studies meeting held in HRD conference Hall, NHCE as a blended mode.

The chairperson introduced **Dr. Manjunatha** , principal, NHCE and **Dr. Anandhi R. J.**, Professor & Dean–Academics, NHCE to the members of Board of Studies and welcomed him for the ensuing proceedings.

The chairperson further expressed special thanks to**,** an expert **Dr. Indiramma,** nominated by VTU, **Dr. Naresh Kumar Nagwani** , expert from NIT Raipur and **Dr. Bharathi M A** expert, nominated by Academic Council for sparing the time from their busy schedule to attend the meeting.

The chairperson also expressed his gratitude to **industrial nominees, Mr. Prasad Chitta,** practice lead, machine intelligence, BFSI technology advisory group, Bengaluru.

The meeting was also attended Co-opted members **Mr. Binod Kumar**, PTO, NHCE, and NHCE Internal faculty member **Dr. Rajalakshmi , Dr. Asha, Dr. Manikandan S P, Dr.Sreejit Panicker, Mr. Bhargava R. , Ms Kavyashree , Ms. Sowmya H.K.**

Presentation by Chairman of BOS about Department schema & Syllabus

The Chairman of BOS Dr. NV Uma Reddy, Professor & Head, Department of AI & ML Engineering, presented draft of Scheme (NEP 160 credit course) from 3rd to 8th semester & Syllabus of 3rd and 4th semester and also presented draft of Scheme (175 credit course) from 5th to 8th semester & Syllabus of 5th and 6th semester in the current academic year 2022-23.

AGENDA – 3
Proposed course for the academic year 2022-23 (III Semester 160 Credit)

S.No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	21AIM31A	Applied Mathematics-III	AS	2	1	0	0	3	4	50	50	100
2	21AIM322A*	Introduction to AI	AI&ML	1	0	1	0	2	3	50	50	100
3	21HSS332A/ 21HSS333A	Aadalitha Kannada / Vyavaharikha Kannada	HSS	1	0	0	0	1	1	50	50	100
4	21HSS342A	Environmental Science	HSS	1	0	0	0	1	1	50	50	100
5	21AIM35A	Digital Electronics for AI	AI&ML	3	0	0	0	3	4	50	50	100
6	21AIL35A	Digital Electronics for AI Lab	AI&ML	0	0	1	0	1	2	50	50	100
7	21AIM36A	Data Structures using C	AI&ML	3	0	0	0	3	4	50	50	100
8	21AIL36A	Data Structures using C Lab	AI&ML	0	0	1	0	1	2	50	50	100
9	21AIM37A	Object-Oriented Programming with Java	AI&ML	3	0	0	0	3	4	50	50	100
10	21AIL37A	Object-Oriented Programming with Java Lab	AI&ML	0	0	1	0	1	2	50	50	100
11	21AIM38A	Mini Project-I	AI&ML	0	0	2	0	2	4	50	50	100
Total								21	31	550	550	1100

LATERAL ENTRY STUDENTS

S.No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	21DMAT31A	Basic Applied Mathematics -1	AS	0	0	0	0	0	2	50	50	100
2	21AEC11A*	Communicative English	HSS	0	0	0	0	0	2	50	50	100
3	21DMAT41A	Basic Applied Mathematics - 2	AS	0	0	0	0	0	2	50	50	100
4	19HSS272	Constitution of India & Professional Ethics	HSS	Mandatory course			0	0	2	50	50	100

IV SEMESTER												
S.No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	21AIM41A	Mathematical Statistics	AS	2	1	0	0	3	4	50	50	100
2	21HSS421A*	Life Skills for Engineers	HSS	1	0	1	0	2	3	50	50	100
3	21HSS431A	Entrepreneurship Development -II	HSS	1	0	0	0	1	1	50	50	100
4	21HSS441A	Constitution of India & Professional Ethics	HSS	1	0	0	0	1	1	50	50	100
5	21AIM45A	Database Management System	AI&ML	3	0	0	0	3	4	50	50	100
6	21AIL45A	Database Management system Lab	AI&ML	0	0	1	0	1	2	50	50	100
7	21AIM46A	Data Science	AI&ML	3	0	0	0	3	4	50	50	100
8	21AIL46A	Data Science Lab	AI&ML	0	0	1	0	1	2	50	50	100
9	21AIM47A	Design and Analysis of Algorithms	AI&ML	3	0	0	0	3	4	50	50	100
10	21AIL47A	Design and Analysis of Algorithms lab	AI&ML	0	0	1	0	1	2	50	50	100
11	21AIM48A	Summer Internship - I	AI&ML	0	0	0	2	2	0	50	50	100
Total								21	27	550	550	1100

Proposed course for the academic year 2022-23 (V Semester 175 Credit)

S.No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	21AIM51A	Machine Learning	AI&ML	3	0	0	0	3	4	50	50	100
2	21AIM52A	Operating system	AI&ML	3	0	0	0	3	4	50	50	100
3	21AIM53A	Big data Technologies	AI&ML	3	0	0	0	3	4	50	50	100
4	21AIM54A	Professional Elective - I	AI&ML	3	0	0	0	3	4	50	50	100
5	21AIM55A	Professional Elective - II	AI&ML	3	0	0	0	3	4	50	50	100
6	21AIL56A	Design and Analysis of Algorithm	AI&ML	3	0	0	0	3	4	50	50	100
7	21AIL57A	Machine Learning Laboratory	AI&ML	0	0	2	0	2	4	25	25	50
8	21AIL58A	Big data Technologies Laboratory	AI&ML	0	0	2	0	2	4	25	25	50
9	21AIM59A	Mini Project - III	AI&ML	0	0	2	0	2	2	25	25	50
Total								24	34	375	375	750

S. NO	COURSE CODE	PROFESSIONAL ELECTIVE-1	S. NO	COURSE CODE	PROFESSIONAL ELECTIVE-2
1	21AIM541A	Information Storage and Retrieval	1	21AIM551A	Speech Synthesis and Recognition
2	21AIM542A	Introduction to sensor and IOT	2	21AIM552A	Embedded Systems
3	21AIM543A	Theory of Computation	3	21AIM553A	Software Engineering
4	21AIM544A	Parallel Processing	4	21AIM554A	Cryptography and Network Security

VI sem (2018 Scheme – 175 Credits)

S.No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours	Marks		
				L	T	P	S			CIE	SEE	Total
1	21AIM61A	Deep Learning Techniques	AI&ML	3	0	0	0	3	4	50	50	100
2	21AIM62A	Data Visualization	AI&ML	3	0	0	0	3	4	50	50	100
3	21AIM63A	Artificial Intelligence	AI&ML	3	0	0	0	3	4	50	50	100
4	21NHOPXX	Open Elective - I	AI&ML	2	0	1	0	3	4	50	50	100
5	21AIM64X	Professional Elective - III	AI&ML	3	0	0	0	3	4	50	50	100
6	21AIM65X	Professional Elective - IV	AI&ML	3	0	0	0	3	4	50	50	100
7	21AIL66A	Deep Learning Laboratory	AI&ML	0	0	2	0	2	4	25	25	50
8	21AIL67A	Data Visualization Laboratory	AI&ML	0	0	2	0	2	4	25	25	50
9	21AIM68A	Mini Project - IV	AI&ML	0	0	2	0	2	2	25	25	50
Total								24	34	375	375	750

Course Code	Professional Elective - III Course	Course Code	Open Elective - I Course
21AIM641A	Biometrics	NHOP01	Big Data Analytics using HP Vertica-1
21AIM642A	Soft Computing	NHOP02	VM Ware Virtualization Essentials-1
21AIM643A	Complier Design	NHOP04	Big Data Analytics using HP Vertica-2
21AIM644A	Computer Networks	NHOP05	VM Ware Virtualization Essentials-2
Professional Elective - IV		NHOP07	SAP
21AIM651A	Augmented & Virtual Reality	NHOP08	Schneider-Industrial Automation
21AIM652A	Pattern Recognition & Image Processing	NHOP09	Cisco-Routing and Switching-1
21AIM653A	Advanced Java	NHOP10	Data Analytics
21AIM654A	Block chain Technologies	NHOP12	CISCO-Routing and switching-2
		NHOP13	IIOT Embedded Systems
		NHOP14	Block chain
		NHOP15	Product Life Cycle Management

AGENDA -5

Presentation of Syllabus of Second year

AI & ML Engineering Subjects for ratification (NEP)

SL NO	SUBJECT CODE	SUBJECT
A.	21AIM31A	Applied Mathematics-III
B.	21AIM322A*	Introduction to AI
C.	21HSS332A/ 21HSS333A	Aadalitha Kannada / Vyavaharikha Kannada
D.	21HSS342A	Environmental Science
E.	21AIM35A	Digital Electronics for AI
F.	21AIL35A	Digital Electronics for AI Lab
G.	21AIM36A	Data Structures using C
H.	21AIL36A	Data Structures using C Lab
I.	21AIM37A	Object-Oriented Programming with Java
J.	21AIL37A	Object-Oriented Programming with Java Lab
L.	21AIM38A	Mini Project-I
M.	21AIM41A	Mathematical Statistics
N.	21HSS421A*	Life Skills for Engineers
O.	21HSS431A	Entrepreneurship Development -II
P.	21HSS441A	Constitution of India & Professional Ethics
Q.	21AIM45A	Database Management System
R.	21AIL45A	Database Management system Lab
S.	21AIM46A	Data Science
T.	21AIL46A	Data Science Lab
U.	21AIM47A	Design and Analysis of Algorithms
V.	21AIL47A	Design and Analysis of Algorithms lab
W.	21AIM48A	Summer Internship - I

Presentation of Syllabus of Second year

AI & ML Engineering Subjects for ratification (175 credits)

SL NO	SUBJECT CODE	SUBJECT
A.	21AIM51A	Machine Learning
B.	21AIM52A	Operating system
C.	21AIM53A	Big data Technologies
D.	21AIM54A	Professional Elective - I
E.	21AIM55A	Professional Elective - II
F.	21AIL56A	Design and Analysis of Algorithm
G.	21AIL57A	Machine Learning Laboratory
H.	21AIL58A	Big data Technologies Laboratory
I.	21AIM59A	Mini Project - III
J.	21AIM61A	Deep Learning Techniques
L.	21AIM62A	Data Visualization
M.	21AIM63A	Artificial Intelligence
N.	21NHOPXX	Open Elective - I
O.	21AIM64X	Professional Elective - III
P.	21AIM65X	Professional Elective - IV
Q.	21AIL66A	Deep Learning Laboratory
R.	21AIL67A	Data Visualization Laboratory
S.	21AIM68A	Mini Project - IV

AGENDA -7

Recommendations/ Suggestions of BOS members

The agenda was already circulated among the committee members and the following discussions were made based on the agenda.

Dr.Indiramma, Professor, BMSCE, Bengaluru, Dr. Naresh Kumar Nagwani, NIT Raipur, Dr. Bharathi M A , Professor & HoD , Department of AI & ML , BMSIT, Bengaluru and Mr. Prasad Chitta , Practice lead, machine intelligence, BFSI technology advisory group, Bengaluru. The members appreciated the curriculum and syllabi.

Subject 1: 21AIM322A* - Introduction to AI

Dr. Anandhi R.J. Dean Academics suggested that syllabus to be reframed so that we can justify the credits , as syllabus was elaborate it was difficult for completing it by time. Mr. Prasad Chitta also recommended in the same and Dr. Bharathi M A was also of the same opinion. Hence without compromising the content we have incorporated the expert members suggestions.

Subject 2: 21AIM35A/21AIL35A - Digital Electronics for AI (Theory/ Lab)

Dr. Naresh Kumar Nagwani stressed for incorporating the concept of GPU so that we can give some basic inputs that would be in accordance with the subject title. Dr. Bharathi M A suggested to incorporate CUDA programming and some topics of computer architecture in the module that would benefit students. The changes are done in the syllabus for both theory and practical's.

Subject 3: 21AIL45A - Database Management system Lab
Mr. Prasad Chitta suggested to include one experiment for NoSQL as they are studying in theory using MongoDB that would help them to understand in better way. The suggestion was good and we have done the changes.

Subject 4: 21AIL37A - Object-Oriented Programming with Java
Dr. Anandhi R. J. suggested reducing the experiments from 15 to 10 as per the credits, without affecting the delivery of concepts. As per the suggestion the syllabus is reframed.

Subject 4: 21AIL46A - Data Science Lab
Dr. Indiramma suggested to have case based practical's in data science that can correlate with the theory part and also to introduce the time series experiments that would help understand the theory part in a much easy way. The suggestion was incorporated in the syllabus.

Subject 5: 21AIM61A - Deep Learning Techniques

Dr. Indiramma expressed her view to reframe the module1 as we need to address some basic concepts, and tensorflow to be taken care in lab. Mr. Prasad Chitta also suggested the same hence we made the necessary changes and updated the syllabus.

All the expert members appreciated the formation of scheme and syllabus as per the relevance of the department. The BoS members unanimously approved the scheme and syllabi for III and IV semesters (NEP) and V and VI semesters (175 credit) for academic year 2022-23.

AGENDA -8

Implementation of recommendation of BOS members

The chairperson constituted the following groups to review and implement the recommendations of the BOS members in the scheme ad syllabus of the curriculum based on recommendations.

Sl No	Subject code	Subject	Faculty
1	21AIL45A	Database Management system Lab	Mr. Bhargava R.
2	21AIM322A*	Introduction to AI	Dr. Sreejit Panicker
3.	21AIM35A/21AIL35A	Digital Electronics for AI	Ms. Kavya Shree S.
4.	21AIL37A	Object Oriented Programming with JAVA	Ms. Sowmya H. K.
5	21AIL46A	Data Science Lab	Ms. Shruti S.

The groups reviewed the curriculum and affected the changes regarding issues raised by external BOS members.

AGENDA -9

Approval of Scheme & Syllabus of Second year AI & ML Engineering Subjects

The Board of Studies members reviewed the modified draft of the scheme & syllabus with their recommendations/suggestions being incorporated appropriately.

Finally, the members approved the draft of the same with the modifications for final implementation.
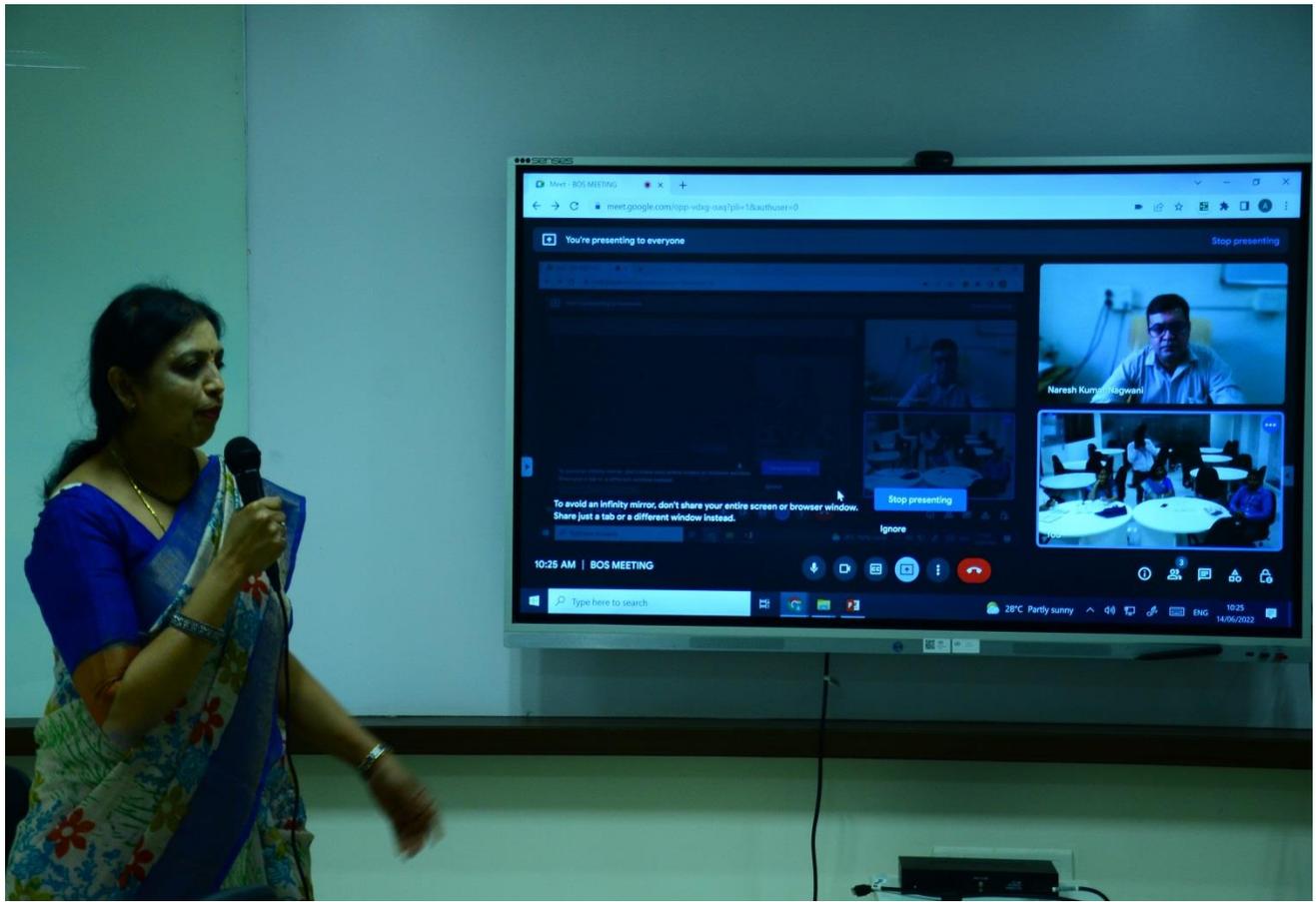
❖ **Third and Fourth semester AI & ML Engineering Subjects (NEP) :-**

Year	Semester	Current Subject Code (Before BOS)	Proposed Subject Code (After BOS)	% change of syllabus	Remarks if any
II Year	III	21AIM322A*	21AIM322A*	10%	Syllabus content was restructured as per the credit criteria.
	III	21AIM35A	21AIM35A	5%	New topic was introduced as per the suggestion.
	III	21AIL35A	21AIL35A	5%	Lab program introduced to correlate with theory.
	III	21AIL37A	21AIL37A	10%	As per the credit number of programs reduced, without affecting the content delivery.
	III	21AIL45A	21AIL45A	5%	Lab program added to address the NoSQL concepts.
	III	21AIL46A	21AIL46A	5%	New program added as case study base and also to address the time series experiments.

❖ **Fifth and Sixth semester AI & ML Engineering Subjects (175 Credits) :-**

Year	Semester	Current Subject Code (Before BOS)	Proposed Subject Code (After BOS)	% change of syllabus	Remarks if any
III Year	**VI**	21AIM61A	21AIM61A	10%	Syllabus content was restructured as per the suggestions given by BOS members.

AGENDA -10

Vote of Thanks by the chairman of BOS

The Chairman thanked all the members for having participated in the meeting and contributed in framing the curriculum and syllabi for Academic Year 2022-23 (3rd and 4th semester NEP Course) and (5th and 6th semester 175 Credits).