माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
Deemed University
(Declared under Distinct Category by Ministry of Education, Government of India)
NAAC ACCREDITED WITH A++ GRADE

Centre for Artificial Intelligence

Date: 05.12.2024

Minutes of Meeting of Board of Studies (BoS) in Centre for Artificial Intelligence

The meeting of the Board of Studies (BoS) in the Centre for Artificial Intelligence was held on 05 Dec., 2024 at 11:30 AM in offline/online mode (though video conferencing). During the meeting following were present:

1.	Dr. Rajni Ranjan Singh	Chairman
2.	Dr. Jitendra Agrawal *Director and Associate Professor, School of Information Technology, RGPV Bhopal.*	External Member (Academics) ***(Nominee of Hon'ble Vice Chancellor RGPV Bhopal)***
3.	Dr. R. K. Pateriya *Professor, Department of CSE, MANIT Bhopal*	External Member (Academics)
4.	Dr. Dilip Singh Sisodia *Associate Professor and HoD, Department of Computer Science, NIT Raipur*	External Member (Academics)
5.	Mr. Giridhari Lal Gupta *Associate at Goldman Sachs, Gwalior.*	External Member (Alumnus)
6.	Dr. Tej Singh	Member
7.	Dr. Pawan Dubey	Member
8.	Dr. Bhagat S. Raghuwanshi	Member
9.	Dr. Sunil Kumar Shukla	Member
10.	Dr. Vibha Tiwari	Member
11.	Dr. Mir Shahnawaz Ahmad	Member
12.	Dr. Shubha Mishra	Member
13.	Dr. Arun Kumar	Member
14.	Dr. Abhishek Bhatt	Member
15.	Dr. Sanjeev Kumar Dwivedi	Member
16.	Dr. Shweta Chauhan	Member
17.	Dr. Hardev Singh Pal	Member
18.	Dr. Shipra Shukla	Member
19.	Dr. Rahul Kumar	Member
20.	Dr. Sumit Dhariwal	Member

The following external member could not attend the meeting:

1.	**Mr. Aditya Marathe** *Founder and CEO, Nugenix Robotics, Ichalkaranji, Maharashtra.*	External Member (Corporate Sector)

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The following deliberation took place in the meeting:

Item 1

To confirm the minutes of the previous BoS meeting held in the month of May-June 2024.

The minutes of the previous BoS meeting held on 31 May, 2024 were presented, discussed and confirmed.

Item 2

To propose the scheme structure of VIII Semester with the provision of ONE DE & ONE OC course to be offered in online mode with credit transfer for the batch admitted in academic year 2021-22. (The total credits from I-VIII semester should not be less than 160 for this batch).

The scheme structure of B. Tech. VIII Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021-22 (under the flexible curriculum), with one DE and one OC (offered from SWAYAM/NPTEL platform with credit transfer), was discussed and recommended. The scheme is annexed as Annexure I. Also, it was confirmed that the total credits from I-VIII semester, for all the three branches of the batch admitted in 2021-22, is equal to 160 credits.

Item 3

To propose the list of courses which the students can opt from SWAYAM/NPTEL/ other MOOC Platforms/ Institution (MITS) MOOC, to be offered in online mode under Departmental Elective (DE) category courses (DE-5) and open category (OC3) for credit transfer in the VIII Semester under the flexible curriculum (Batch admitted in academic year 2021-22)

Following list of Departmental Elective-5 and open category-3 courses, offered from SWAYAM/NPTEL platform, for B. Tech. VIII Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 – 22, were presented, discussed and recommended in the meeting:

DE-5		
IT (AIR)	**AI&DS**	**AI&ML**
Introduction to Large Language Models (LLMs) - 12 weeks	Introduction to Large Language Models (LLMs) - 12 weeks	Introduction to Large Language Models (LLMs) - 12 weeks
Wheeled Mobile Robots- 8 weeks	Business Intelligence & Analytics- 12 weeks	Deep Learning for Natural Language Processing - 12 weeks
Collaborative Robots (COBOTS): Theory and Practice- 8 weeks	Essentials of Data Science with R Software-1: Probability and Statistical Inference- 12 weeks	User-centric Computing For Human-Computer Interaction - 8 weeks
		Fuzzy Logic and Neural Networks- 8 weeks

OC-3
Design and Engineering of Computer Systems - 8 weeks
Social Networks - 12 weeks
Fuzzy Logic and Neural Networks - 8 weeks

Item 4

To propose the list of "Additional Courses" which can be opted for getting an
(i) Honours (for students of the host department)
(ii) Minor Specialization (for students of other departments)
[These will be offered through SWAYAM/NPTEL/MOOC based Platforms for the B.Tech. VIII semester students (for the batch admitted in 2021-22)] and for B.Tech. VI semester (for the batch admitted in 2022-23)]

Following list of Honours courses, offered from SWAYAM/NPTEL platform, for B. Tech. VIII Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2021 – 22, and B. Tech. VI Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022 – 23, were presented, discussed and recommended in the meeting:

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List of courses to be opted for Honours in VIII Semester (for the batch admitted in 2021-22) *(to be opted by students of Parent Department)*			
Track 1: Information Security		**Track 2: Internet of Things**	
1.	Systems and Usable Security (4 Weeks)	1.	Edge Computing (8 Weeks)
2.	Quantum algorithm and Cryptography (12 Weeks)	2.	Wireless Ad Hoc and Sensor Networks (8 Weeks)
3.	Wireless Ad Hoc and Sensor Networks (8 Weeks)	3.	Introduction to Internet of Things (12 weeks)
4.	Secure Computation: Part I (12 Weeks)	4.	Sensors and actuators (12 weeks)
5.	Information Security- 5 - Secure Systems Engineering (8 Weeks)	5.	Microprocessors and Microcontrollers (12 weeks)
Track 3: High Performance Computing			
1.	High Performance Scientific Computing (12 Weeks)		
2.	Affective Computing (12 Weeks)		
3.	Edge Computing (8 Weeks)		
4.	Parallel Computer Architecture (12 Weeks)		
5.	GPU Architectures and Programming (12 Weeks)		

List of courses to be opted for Honours in VI Semester (for the batch admitted in 2022-23) *(to be opted by students of Parent Department)*			
Track 1: Information Security		**Track 2: Internet of Things**	
1.	Secure Computation: Part I (12 weeks)	1.	Sensors and Actuators (12 weeks)
2.	Information Security-5-Secure Systems Engineering (8 weeks)	2.	Microprocessors and Microcontrollers (12 weeks)
		3.	Introduction to Internet of Things (12 Weeks)
Track 3: High Performance Computing			
1.	Parallel Computer Architecture (12 weeks)		
2.	GPU Architectures and Programming (12 Weeks)		

Following is the list of Minor Specialization courses in Artificial Intelligence and Machine learning for the students of other departments of B.Tech. VI semester (for the batch admitted in 2022-23):

Minor Specialization in Artificial Intelligence and Machine Learning for VI Semester Students *(to be opted by students of other Department)*	
1.	Introduction To Soft Computing (8 weeks)
2.	Artificial Intelligence: Knowledge Representation And Reasoning (12 weeks)

Item 5	To review and finalize the scheme structure of B.Tech VI Semester under the flexible curriculum (Batch admitted in 2022-23) **The scheme structure of B. Tech. VI Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022-23 (under the flexible curriculum), was discussed and recommended. The scheme is annexed as Annexure II.**
Item 6	To review & finalize the syllabi for all Departmental Core Courses (DC) of B. Tech VI Semester (for batch admitted in 2022-23) under the flexible curriculum along with their COs. **The syllabus of all DC courses, along with COs, of B. Tech. VI Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022-23, was discussed, reviewed and recommended. The syllabus of various courses is annexed as Annexure-III.**

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Item 7

To propose the list of courses from SWAYAM/NPTEL/MOOC Platforms to be offered for batches admitted in 2022-23 in online mode under Departmental Elective (DE) Course with credit transfer, in the VI Semester.

Following list of Departmental Elective-I courses, offered from SWAYAM/NPTEL platform, for B. Tech. VI Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2022-23, were presented, discussed and recommended in the meeting:

DE-I		
IT (AIR)	**AI&DS**	**AI&ML**
Wheeled Mobile Robots (8 weeks)	Business Intelligence & Analytics (12 Weeks)	Artificial Intelligence: Knowledge Representation and Reasoning (12 Weeks)
Collaborative Robots (COBOTS): Theory and Practice (8 weeks)	Data Analytics with Python (12 Weeks)	Blockchain and its Applications (12 Weeks)
Compiler Design (12 weeks)	Compiler Design (12 weeks)	Edge Computing (8 Weeks)
		Compiler Design (12 Weeks)

Item 8

To review and finalize the courses & syllabi to be offered (for batch admitted in 2022-23) under the Open Category (OC) Courses to be offered in traditional mode for B Tech VI semester of other departments along with their COs.

The syllabi of all OC courses, to be offered in traditional mode for B. Tech. VI Semester [of other department], batch admitted in academic session 2022-23, was discussed, reviewed and recommended. The syllabus of various courses is annexed as Annexure-IV.

Item 9

To review and finalize the Experiment list/ Lab manual/Skill based mini-project for all the Laboratory Courses to be offered in B.Tech.VI semester(for batch admitted in 2022-23).

The Experiment list/ Lab manual/ Skill based mini-project for Laboratory Courses to be offered in B. Tech. VI semester (for batches admitted in 2022-23), was proposed, reviewed and recommended. The same is annexed in Annexure-V.

Item 10

To review and finalize the scheme structure of B. Tech. IV Semester under the flexible curriculum (for batch admitted in 2023-24)

The scheme structure of B. Tech. IV Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2023-24 (under the flexible curriculum), was discussed and recommended. The scheme is annexed as Annexure VI.

Item 11

To review and finalize the syllabi for all Departmental Core (DC) Courses of *B. Tech. IV Semester* (for batch admitted in 2023-24) under the flexible curriculum along with their COs

The syllabus of all DC courses, along with COs, of B. Tech. IV Semester [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning], batch admitted in academic session 2023-24, was discussed, reviewed and recommended. The syllabus of various courses is annexed as Annexure-VII.

Item 12

To review and finalize the Experiment list/ Lab manual/Skill based mini-project for all the Laboratory Courses to be offered in Batch IV semester (for batch admitted in 2023-24)

The Experiment list/ Lab manual/ Skill based mini-project for Laboratory Courses to be offered in B. Tech. IV semester (for batches admitted in 2023-24), was proposed, reviewed and recommended. The same is annexed in Annexure-VIII.

Item 13

To finalize the Skill Internship Project (SIP) module to be offered in Dec 2024.

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	Following list of Skill Internship Project (SIP) modules, that will be offered in Dec 2024, were presented, discussed and recommended: 1. **Data Handling and Visualization through MATLAB** 2. **Artificial Intelligence in Marketing** 3. **Data Analysis and Visualisation Using Python Libraries** 4. **Imbalanced Learning for classification** 5. **Malicious Network Packet Detection using IDS SNORT tool** 6. **Time series analysis**
Item 14	To propose the content of the courses identified for MITS-MOOC development to be offered in blended mode for VII Semester DE/OC courses for the batch admitted in 2022-23. **The contents of the courses identified for MITS-MOOC development to be offered in blended mode for VII Semester DE/OC courses for the batch admitted in 2022-23, were presented, discussed and recommended. The contents are annexed as Annexure IX.**
Item 15	To review the CO attainments, identify gaps and suggest corrective measures for the improvement in the CO attainment levels for the courses taught in Jan-June 2024 Session. **The CO attainment levels of various courses, taught during Jan-June 2024 session, were reviewed, along with the Gap identification and necessary action taken for not attained CO levels. The same is annexed as Annexure-X.**
Item 16	To review the PO attainment, CO-PO mapping matrix and action to be taken to improve PO attainment level. **The PO attainment, CO-PO mapping matrix and action to be taken to improve PO attainment levels for IT-AIR Batch 2020-21, was presented and analysed. The same is annexed as Annexure-XI.**
Item 17	To review curricula feedback from various stakeholders, its analysis and impact. **The curricula feedback from various stakeholders for B. Tech. II/IV/VI Semesters [Information Technology (Artificial Intelligence and Robotics)/ Artificial Intelligence (AI) and Data Science/ Artificial Intelligence (AI) and Machine Learning] during Jan.-June 2024, were reviewed and discussed. The same is annexed in Annexure-XII.**
Item 18	To discuss and recommend the scheme structure & syllabi of PG Programme (M.E./M.Tech./MCA/MBA) along with their Course Outcomes (COs) (for batch admitted in 2023-24). **NA**
Item 19	Any other matter. **Nil**

Suggestions by the external experts/members:

All the external experts were satisfied with the scheme structure, syllabus and other documents presented and discussed in the meeting.

The meeting ended with the vote of thanks to all the members.

Dr. Tej Singh **Dr. Pawan Dubey** **Dr. Bhagat S. Raghuwanshi** **Dr. Sunil Kumar Shukla** **Dr. Vibha Tiwari**

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Dr. Shubha Mishra

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Dr. Shweta Chauhan

Dr. Hardev Singh Pal

Dr. Shipra Shukla

Dr. Rahul Kumar

Dr. Sumit Dhariwal

Attended Online

Dr. Jitendra Agrawal
Director and Associate Professor,
School of Information Technology,
RGPV Bhopal.

Attended Online

Dr. Dilip Singh Sisodia
Associate Professor and HoD,
Department of Computer Science,
NIT Raipur

Attended Online.

Dr. R. K. Pateriya
Professor,
Depart of CSE,
MANIT Bhopal

Attended Online.

Mr. Giridhari Lal Gupta
Associate at Goldman Sachs,
Gwalior.

Absent

Mr. Aditya Marathe
Founder and CEO,
Nugenix Robotics,
Ichalkaranji, Maharashtra.

Dr. Rajni Ranjan Singh
Head, Center for Artificial Intelligence [Chairman, BoS]