National Engineering College, K.R.Nagar, Kovilpatti – 628 503
(An Autonomous Institution - Affiliated to Anna University, Chennai)
www.nec.edu.in

Department of Computer Science and Engineering
Department of Information Technology
Department of Artificial Intelligence & Data Science

MINUTES of 24th Meeting of the Board of Studies held on 06th Dec 2025, 09.30 AM

Venue: COE Conference Hall, National Engineering College
K.R.Nagar, Kovilpatti – 628 503

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24th Board of Studies Meeting in the Departments of
Computer Science and Engineering
Information Technology
Artificial Intelligence & Data Science

Venue: COE Conference Hall, National Engineering College

K.R.Nagar, Kovilpatti – 628 503

Date & Time: 06.12.2025 & 09.30 AM

Agenda

BoS / CSE, IT, AI&DS 24.1	:	Confirmation of the Minutes of the 23rd meeting of Board of studies in the departments of Computer Science & Engineering, Information Technology, Artificial Intelligence & Data Science held on 17th May 2025 and Action taken report of 23rd meeting of Board of studies.
BoS / CSE, IT, AI&DS 24.2	:	Business brought forward by the Chairman, Board of studies 24.2.1. Curriculum & Syllabi for Programme Electives and Open Elective courses of B.E/B.Tech degree programmes under R-2023 24.2.2. Syllabi for One Credit Courses for B.E/B.Tech degree programmes under R-2023 24.2.3. Syllabi for Final Year Core courses of B.E/B.Tech degree programmes under R-2023 24.2.4. Course design document for 6th semester courses of B.E/B.Tech degree programmes under R-2023 24.2.5. Syllabi for additional Elective Courses for M.E/M.Tech degree programmes under R-2023
BoS / CSE, IT, AI&DS 24.3	:	Any other items.
BoS / CSE, IT, AI&DS 24.4	:	Suggestions given by the BoS Members

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F. No. 1-1/NEC/CSE, IT, AI&DS

06th Dec, 2025

Dear Sir/Madam,

Sub: *Minutes of the 24th Meeting of the Board of studies in the Computer Science and Engineering, Information Technology, Artificial Intelligence & Data Science -Reg.*

Kindly find attached herewith the Minutes of the 24th Meeting of Board of studies of the Computer Science and Engineering, Information Technology and Artificial Intelligence & Data Science of the National Engineering College, K.R. Nagar, Kovilpatti – 628 503 held on 06th Dec 2025 at 09.30 AM in the COE Conference Hall of National Engineering college. Hard copy of the Minutes is also being sent to you by speed post.

It is requested that comments on the Minutes, if any, may please be sent by emails at hodcse@nec.edu.in / hodit@nec.edu.in / hodai@nec.edu.in or by post, at the earliest. If no comments are received, within ten days, the minutes shall be taken as confirmed.

Yours Sincerely

Dr.V.Kalaivani
Chairman/BoS-AI&DS

Dr.K.G.Srinivasagan
Chairman/BoS-IT

Dr.V.Gomathi
Chairman/BoS-CSE

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Department of Computer Science and Engineering
Department of Information Technology
Department of Artificial Intelligence & Data Science

MINUTES OF THE MEETING

The 24th Meeting of the Board of Studies of the Computer Science and Engineering, Information Technology and Artificial Intelligence & Data Science was held on 06th Dec 2025 at 09.30 AM in the COE Conference Hall of National Engineering College.

The following members were present in the COE Conference Hall

1.	Dr.V.Gomathi Professor & Head/ CSE	Chairman BoS/ CSE
2.	Dr.K.G.Srinivasagan Professor & Head/ IT	Chairman BoS/ IT
3.	Dr.V.Kalaivani Professor & Head/ AI&DS	Chairman BoS/ AI&DS
Experts attended the Meeting		
4.	Dr.S.Sendhil Kumar Professor, Dept. of Information Science and Technology, CEG Campus, Anna University, Chennai.	Anna University Nominee
5.	Dr. A.D.Dileep, Professor, Dept. of CSE, Indian Institute of Technology, Dharwad, Karnataka	Academic Expert from Central Institutions
6.	Dr.V.Masilamani, Professor, Department of CSE, Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram.	Academic Expert Nominated by the Academic Council
7.	Dr. B.L. Velammal Associate Professor, Department of CSE, Anna university, Chennai.	
8.	Mr. Roy Antony Arnold George Charles, Senior Consultant, Process and Domain Consulting, Application Development and Maintenance, Infosys Private Ltd., Chennai.	Experts from Industries

9.	Mr. S R.Dhinesh Khanna, Global Head-Customer Success, Zoho Corporation, Chennai.	
10.	Mr.K.Sujeeth, Senior Technical Lead- Data Analyst, Mercedes Benz R&D India, Bangalore.	
11.	Mr.Arun Rajkumar Co-Founder & CTO, ATOA payment, Bengaluru.	
12.	Dr.Sujesh Sreedharan (R&D), Engineer - G, SCTIMST, Trivandrum	Scientist from Research & Development Laboratories
13.	Dr.Shajulin Benedict, Associate Professor, Indian Institute of Information Technology, Kottavam, Kerala	Alumni Member
14.	Dr.B.Paramasivan Professor/CSE	Internal Members
15.	Dr.D.Manimegalai Professor/CSE	
16.	Dr.K.Mohaideen Pitchai, Professor/ CSE	
17.	Dr.S.Kalaiselvi Associate Professor/ CSE	
18.	Dr.R.Rajakumari Associate Professor/CSE	
19.	Dr.G.Sivakamasundari, Associate Professor/ CSE	
20.	Dr.B.Shunmugapriya, Associate Professor / CSE	
21.	Dr.S.Dheenathayalan, Associate Professor / CSE	
22.	Ms.D.Thamarai Selvi, Assistant Professor(SG)/ CSE	
23.	Mr.J.Karthikeyan, Assistant Professor (SG)/ CSE	
24.	Dr.J.Ida Christy, Assistant Professor (SG)/ CSE	
25.	Ms.R.Vazhan Arul Santhiya Assistant Professor/CSE	
26.	Dr.R.Muthukkumar, Professor/ IT	
27.	Dr.S.Chidambaram, Associate Professor / IT	

28.	Dr.S.Rajagopal, Associate Professor / IT	
29.	Ms.V.Anitha, Assistant Professor(SG)/IT	
30.	Ms.S.Santhi, Assistant Professor(SG)/IT	
31.	Ms.R.Suguna, Assistant Professor/IT	
32.	Dr.J.Naskath, Associate Professor/AI&DS	
33.	Mr.A.Shenbagharaman, Assistant Professor(SG)/ AI&DS	
34.	Dr.V.Veera Anusuya, Assistant Professor(SG)/ AI&DS	
35.	Ms.K.Poorani, Assistant Professor/AI&DS	
36.	Ms.G.Dhivya, Assistant Professor/AI&DS	
37.	Ms.P.Swarna Gowsalya, Assistant Professor/AI&DS	
38.	Ms.M.Saranya, Assistant Professor/AI&DS	
39.	Mr.R.Aravinth Raj III Year/CSE	Student Members Nominated by concern HODs
40.	Ms.S.Durga Devi III Year/CSE	
41.	Ms.B.Subhainduja III Year/IT	
42.	Mr.R.Lordson Jabez III Year/IT	
43.	Mr.M.Sivarama Krishnan, III Year/AI&DS	
44.	Ms.A.Abijin Suvedha, III Year/AI&DS	

Dr.V.Natarajan and Mr. Sudeesh Sankaravel could not attend the meeting due to their prior commitments and was granted leave of absence. Due to unprecedented Flight schedule chaos Dr.A D Dileep has attended the meeting in online mode.

BoS / CSE, IT, AI&DS 24.1	:	**TO CONFIRM** THE MINUTES OF 23rd BOS MEETING HELD ON 17th MAY, 2025. The minutes of the **23rd Board of Studies meeting** held on 17th May 2025 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 23rd Academic council.

		• **Action Taken Report** (Enclosed in Annexure I)
BoS / CSE, IT, AI&DS 24.2.1	:	**TO CONFIRM the approval of** Curriculum & Syllabi for Programme Elective and Open Elective courses of B.E/B.Tech degree programmes under R-2023 **RESOLVED the approval of** Curriculum & Syllabi for Programme Elective and Open Elective courses of B.E/B.Tech degree programmes under R-2023
BoS / CSE, IT, AI&DS 24.2.2	:	**TO CONFIRM the approval of** Syllabi for One Credit Courses for B.E/B.Tech degree programmes under R-2023 **RESOLVED the approval of** Syllabi for One Credit Courses for B.E/B.Tech degree programmes under R-2023
BoS / CSE, IT, AI&DS 24.2.3	:	**TO CONFIRM the approval of** Syllabi for Final Year Core courses of B.E/B.Tech degree programmes under R-2023 **RESOLVED the approval of** Syllabi for Final Year Core courses of B.E/B.Tech degree programmes under R-2023
BoS / CSE, IT, AI&DS 24.2.4	:	**TO CONFIRM the approval of** Course design document for 6th Semester courses of B.E/B.Tech degree programmes under R-2023 **RESOLVED the approval of** Course design document for 6th semester courses of B.E/B.Tech degree programmes under R-2023
BoS / CSE, IT, AI&DS 24.2.5	:	**TO CONFIRM the approval of** Syllabi for additional Elective Courses for M.E/M.Tech degree programmes under R-2023 **RESOLVED the approval of** Syllabi for additional Elective Courses for M.E/M.Tech degree programmes under R-2023.
BoS / CSE, IT, AI&DS 24.3	:	**ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMANS OF THE BOS (CSE, IT and AI&DS)** On the whole, External BoS members appreciated and applauded the sincere efforts taken by the team of faculty members for implementing experiential learning practices for the betterment of students. R2023 curriculum structure and verticals was well appreciated for the relevance to current industrial needs. Encouraged to increase the student startups with curiosity in product development. Appreciated for utilizing academic licences for certifications like SnowFlake, CISCO, AWS, etc., For our NEC autonomous pattern, curriculum template may be moved on next-level, by not restricting strictly putting contents below the COs. i.e, to build COs which emphasis the holistic outcomes out of the course completion at the end. Faculty should be urged to undergo

		Industry-Know-How, Industrial Training or self-paced upskilling for the emerging trends with more passionate ways to deliver the contents. Insisted the importance of algorithmic design of solutions to complex problems for higher package placement readiness, informed to create awareness to students.
BoS / CSE, IT, AI&DS 24.4	:	**SUGGESTIONS GIVEN BY THE BOS MEMBERS**
BoS / CSE, IT, AI&DS 24.4.1	:	Student participation in Opensource contributions, Leetcode / Hackerrank, Gitflows, to be included as part of their programming-based courses, Mini project and Mini-capstone projects review rubrics as KPIs.
BoS / CSE, IT, AI&DS 24.4.2	:	In 23CS71C/23IT71C/23AD71C – Mini Project course, insisted the outcomes of projects to be assured with TRL levels.
BoS / CSE, IT, AI&DS 24.4.3	:	In 23IT61C - Machine Learning (23IT61C), Bias detection and model fairness evaluation may be covered under the topic Performance measures in CO1. Also, Feature engineering best practices and feature stores concept may be included under CO2 as CO2 deals with supervised learning algorithms.
BoS / CSE, IT, AI&DS 24.4.4	:	In 23CS63C – Data Science course, suggested to practice SQL query optimization module (EXPLAIN/EXPLAIN ANALYZE, indexing, performance tuning in CO1, A/B testing fundamentals with statistical significance interpretation in CO2 and ETL, data warehousing basics, and introduction to Apache Airflow- CO4&CO8.
BoS / CSE, IT, AI&DS 24.4.5	:	In 23CS61C – Business Process Management in that course, for Co3 and CO4 Agile/ Scrum methodologies to be integrated; for CO5 to follow SaaS orchestration with APIs. To practice AI tools like Zapier, n8n, Camunda for work flow automation.
BoS / CSE, IT, AI&DS 24.4.6	:	Additional Elective Course 23CT26E - Dynamic Web Programming was added for M.E/M.Tech degree programmes under R-2023.
BoS / CSE, IT, AI&DS 24.4.7		For Syllabi for Programme Elective Courses under each vertical being offered (commonly for B.E. CSE, B.Tech IT and B.Tech AI&DS), the following suggestions and few modifications are pointed out by Experts: **Blockchain Technology** • In 23CS04E / 23IT04E / 23AD04E - Blockchain Security course, it is suggested to convert the course into an integrated theory–practical course by reducing the content that requires extensive hands-on sessions or case studies. **Theoretical Computer Science** • In 23CS72E/23IT72E/23AD72E - Approximation Algorithms course, the contents of CO4 and CO5 may be interchanged. • In 23CS74E/23IT74E/23AD74E - Computational Graph Theory course, the practical components may be implemented using C or

C++ only. The Neo4j tool may be used for simulation.

Cyber Security

- In 23IT57E/23CS57E/23AD57E - Firewall and Intrusion Detection Systems Course, suggested to interchange the order of CO3 & CO4 contents and to add Case studies or may add Institutional firewall analysis to demonstrate the Layout / Architecture of firewalls.
- In 23IT54E/23CS54E/23AD54E - Security and Privacy in IoT course, suggested to convert the course into an integrated theory–practical with inclusion of AI tools in possible COs. Also to shift the second reference book as the text book.
- In 23IT58E/23CS58E/23AD58E - Threat Intelligence and Risk Management course, first reference book may be shifted as text book.
- In 23IT5ME/23CS5ME/23AD5ME - Mini-Capstone Project, remove the word "Introduction" in Module 5.
- Fundamentals of IOT and its Applications may be given as a Programme Core Course in curriculum instead of from NPTEL.
- Risk Management for Medical devices course may be included with R&D related case studies.
- Suggested to create talent pools in Cyber Security domain with AI tools integration.

Fullstack Development

- In 23CS17E/23IT17E/23AD17E - Full stack testing, include end to end testing with playwright and Cucumber framework, remove CI/CD pipeline. Offer as an integrated practical course instead of theory-only. Refine CO3. Allow students to practice any one tool as hands-on.
- In 23CS18E/23IT18E/23AD18E - Flutter and Firebase, the first reference book may be prescribed as a text book. Also, contents on Performance Optimization and CI/CD for mobile may be included. Suggested to revise the title as "Fullstack App with Flutter and Firebase". Also, encouraged to deploy the app in either Google play or Apple app store.

Business Analytics

- To include 23IT61E/23CS61E/23AD61E - Bioinformatics course, recommended to change the vertical name as Data analytics.
- In 23IT69E/23CS69E/23AD69E - Prescriptive Analytics and Optimization, the book given in references titled, "Hands-On Prescriptive Analytics: Optimizing Your Decision Making with Python", may be prescribed as text book and content can be aligned as per the book content.

Industrial AI

- In 23AD44E/23CS44E/23IT44E – AI for Robotics, simulation-

based case studies may be included to strengthen practical understanding and applications.

- In 23AD45E/23CS45E/23IT45E – AI in Supply Chain, Alumni/Industryexperts/Management faculty specializing in Supply Chain Management may be invited to conduct one or two sessions on recent trends and emerging practices in the field.
- In 23AD47E/23CS47E/23IT47E – Responsible AI, AI tools such as Claude may be included to enhance hands-on learning related to ethics, bias, and safe AI practices.
- In23AD42L/23CS42L/23IT42L – Intelligent Dashboard Development using Modern Tools, Open-source platforms such as Apache Superset, Cursor IDE may be included. Integration of data streaming from various sources may also be included.

Computational Intelligence

- In 23CS26E/23IT26E/23AD26E - Time Series Analysis course, suggested to merge CO1 and CO2; CO4 and CO5. Instead, informed to introduce two COs that are related to deep learning models such as RNN, LSTM, GRUs and transformer-based models.
- In 23CS27E/23IT27E/23AD27E - Nature and bio inspired computing course, suggested to remove the contents of CO2 & CO4 and elaborate the contents CO3 into CO3 and CO4.
- In 23CS22L/23IT22L/23AD22L - Agentic AI tools and frameworks course, suggested to modify the course as a Practical rather than as a Theory. Also, insisted to verify the latest practices in Industry.
- In 23CS23L/23IT23L/23AD23L - CUDA programming course name may be changed as Accelerated AI development using CUDA
- In 23CS24L/23IT24L/23AD24L - Remote sensing and GIS, suggested to change the textbooks with recent editions.

Augmented Reality & Virtual Reality

- In 23CS36E/23IT36E/23AD36E - Human Computer Interaction course name may be changed as "AI for Human Computer Interaction" to emphasize the integration of AI concepts within HCI.
- In 23CS38E/23IT38E/23AD38E - Metaverse Development course, revise CO5 statement, incorporate case studies to illustrate real-world applications, and consider adding simulators (e.g., Roblox Studio) to enhance hands-on learning.

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and the Syllabi of R-2023.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

a. Curriculum & Syllabi for Programme Elective and Open Elective courses of B.E/B.Tech degree programmes under R-2023
b. One Credit Courses for B.E/B.Tech degree programmes under R-2023
c. Syllabi for Final Year Core courses of B.E/B.Tech degree programmes under R-2023
d. Course design document for 6th Semester courses of B.E/B.Tech degree programmes under R-2023
e. Syllabi for additional Elective Courses for M.E/M.Tech degree programmes under R-2023

Mr.A.Shenbagaraman, Assistant Professor (SG)/AI&DS, thanked all the members for their valuable suggestions and cooperation and the meeting came to an end.

Members Present

Dr.V.Gomathi Professor & Head/CSE Chairman BoS/CSE	6/12/25
Dr.K.G.Srinivasagan Professor & Head/IT Chairman BoS/IT	6/12
Dr.V. Kalaivani Professor & Head/AI&DS Chairman BoS/AI&DS	06/12/25
Experts Attended the 24th BoS meeting **Expert Nominated by the Anna University, Chennai**	
Dr.S.Sendhil Kumar Professor, Department of Information Science and Technology, CEG Campus, Anna University, Chennai.	06/12/25
Academic Expert from Central Institutions	
Dr. A.D.Dileep Professor, Dept. of CSE, Indian Institute of Technology, Dharwad, Karnataka	Attended in Online Mode, due to unprecedented Flight Cancellation.
Academic Experts Nominated by the Academic Council	
Dr.V.Masilamani Professor, Department of CSE, Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram.	6/12/25
Dr. B.L. Velammal Associate Professor, Department of CSE, Anna university, Chennai.	6/12/2025
Experts from Industries	
Mr. Roy Antony Arnold George Charles Lead Consultant, Process and Domain Consulting, Application Development and	6/12/25

Maintenance, Infosys Private Ltd., Chennai.	
Mr. S R.Dhinesh Khanna, Global Head-Customer Success, Zoho Corporation, Chennai.	6/12/25
Mr.K.Sujeeth Senior Technical Lead- Data Analyst Mercedes Benz R&D India, Bangalore.	K.Sujeeth - 6/12/25
Mr.Arun Rajkumar Co-Founder & CTO, ATOA payment, Bengaluru	6/12/25
Scientist from Research & Development Laboratories	
Dr.Sujesh Sreedharan (R&D) Engineer-G, SCTIMST, Trivandrum	06/12/25
Alumni member	
Dr.Shajulin Benedict, Associate Professor, Indian Institute of Information Technology, Kottayam, Kerala.	6/12/2025

Internal BoS Members	
Dr.B.Paramasivan, Professor/CSE	6/12/25
Dr.D.Manimegalai, Professor/CSE	6/12/25
Dr.K.MohaideenPitchai Professor/ CSE	6/12/25
Dr.S.Kalaiselvi Associate Professor/CSE	6/12/25
Dr.R.Rajakumari Associate Professor/CSE	6/12/2025
Dr.G.Sivakamasundari Associate Professor/CSE	6/12/25
Dr.B.Shunmugapriya Associate Professor/CSE	6/12/2025
Dr.S.Dheenathayalan Associate Professor/CSE	6.12.25
Ms.D.Thamarai Selvi Assistant Professor(SG)/CSE	6/12/25
Mr.J.Karthikeyan Assistant Professor(SG)/CSE	6/12/25
Dr.J.Ida Christy Assistant Professor(SG)/CSE	6/12/25
Ms.R.Vazhan Arul Santhiya Assistant Professor/CSE	06/12/2025
Dr.R.Muthukkumar, Professor/ IT	6.12.25
Dr.S.Chidambaram, Associate Professor/IT	6/12

Dr.S.Rajagopal, Associate Professor/IT	6/12/25
Ms.V.Anitha, Assistant Professor(SG)/IT	6/12/25
Ms.S.Santhi, Assistant Professor(SG)/IT	6/12/25
Dr.J.Naskath, Associate Professor/AI&DS	6/12/25
Mr.A.Shenbagharaman, Assistant Professor(SG)/AI&DS	
Dr.V.Veera Anusuya, Assistant Professor(SG)/AI&DS	6/12/25
Ms.K.Poorani, Assistant Professor/AI&DS	6/12/25
Ms.G.Dhivya, Assistant Professor/AI&DS	6/12/25
Ms.P.Swarna Gowsalya, Assistant Professor/AI&DS	6/12/25
Ms.M.Saranya, Assistant Professor/AI&DS	6/12/25
Mr.R.Aravinth Raj III Year/CSE	06/12/25
Ms.S.Durga Devi III Year/CSE	S. Durga Devi 06/12/25
Ms.B.Subhainduja III Year/IT	B. Subhainduja 06/12/25
Mr.R.Lordson Jabez III Year/IT	06/12/25
Mr.M.Sivarama Krishnan, III Year/AI&DS	6/12/25
Ms.A.Abijin Suvedha, III Year/AI&DS	Abijin Suvedha A 6/12/25

06/12/25
CHAIRMAN
BOS / AI&DS

CHAIRMAN
BOS / IT

6/12/25
CHAIRMAN
BOS / CSE

Annexure I

Action Taken Report for Minutes of 23rd BOS Meeting

As per BOS committee suggestions,

Particulars of 23rd BoS MEETING Minutes	DETAILS OF ACTIONS TAKEN
For Programme Core / Elective courses, it is suggested to limit the maximum number of text books as 2 only	As per suggestion, the maximum number of text books is reduced as 2.
In 23AD61C - Optimization Techniques, in CO1, the Dual Simplex Method may be included and CO4 statement may be reframed.	In CO1, the Dual Simplex Method is included and CO4 statement was reframed.
In 23AD62C – Computer Vision, course contents may be reduced and number of COs may be reduced to 4 and in CO7, the contents may be based on 2D space.	As per suggestions, course contents are reduced and number of COs are reduced to 4 and in CO7, the contents are changed based on 2D space.
In 23IT61C - Machine Learning, Perceptron may be removed and performance metrics may be added in CO1. The topics from Supervised Learning may be covered in 2 COs, Unsupervised Learning concepts may be given in next 2 COs. The final CO may cover Neural Network concepts.	As per suggestions, the corrections are carried out both in theory and lab courses.
In 23IT62C - Cloud Computing, CO2 statement may be reframed. Concepts of Poly Cloud and Multi Cloud may be included in CO1. In CO4, Firebase, Anaka and Docker may be added. Also for each service, a case study may be included.	As per suggestions, the CO statements of both theory and lab courses are reframed. The proposed topics are also included in the theory course.
In 23IT64C - Essentials of Mobile App Development, CO1 statement may be reframed and Kotlin KMP concept may be included. Also, error handling concepts may be included in CO2. SQLite may be considered for database connectivity instead of PostgreSQL and NoSQL.	As per suggestions, the CO statements are refined and Kotlin KMP, error handling concepts are added.
In 23IT66C - Machine Learning Laboratory may also be refined based on its theory contents.	As per suggestions, the corrections are carried out both in theory and lab courses.
In 23CS61C – Business Process Management course, it is suggested to include RPA as a case study under CO5.	As per suggestions, the topic is included.
In 23CS63C – Data Science course, it is suggested to remove the overlapping contents with allied Mathematics courses. Also, it is advised to structure the flow of content in a horizontal slicing approach.	As per suggestions, the corrections are carried out.
Anna university nominee and external BoS experts had suggested refining the assessment patterns of experiential learning components. Also, identifying only a few courses under experiential learning component was pointed out. However, internal BoS experts informed the NEC guidelines for R2023 and necessity of Project-based learning in addition to practical lab experiments for fulfilling the emerging technology aspects of Industry and soft-skill improvement of students.	It is planned to present a case study report about benefits of experiential learning in R2023 in the upcoming 24th BoS meeting with student's feedback analysis.

Syllabi for Programme Elective Courses under each verticals being offered (Commonly for B.E. CSE, B.Tech IT and B.Tech AI&DS), few suggestions and modifications are pointed out as detailed below: **Blockchain Technology** • In 23CS05E/23IT05E/23AD05E – Blockchain using Hyperledger course, suggested to rename as "Permissioned Blockchains".Also informed to add Kafka consensus algorithm concepts under CO1. • In 23CS05E/23IT05E/23AD05E – Blockchain using Hyperledger course suggested to remove the contents of Hyperledger Besu from CO4.	As per suggestion, Renamed the 'Blockchain using Hyperledger' Course as 'Permissioned Blockchain' and the topic 'Kafka Consensus Algorithm' is included in CO1. As per suggestion, The topic 'Hyperledger Besu' is removed from CO4 in the course on ''Blockchain using Hyperledger' (Renamed as Permissioned Blockchain)
Fullstack Development • In 23CS15E/23IT15E/23AD15E – Mobile Application Development course, suggested to include APK versioning concepts and Kotlin MultiPlatform; to introduce SQlite instead of PostgreSQL.	As per suggestion, the corrections are carried out.
Industrial AI • In 23CS43E/23IT43E/23AD43E – Reinforcement Learning, COs may be reduced to 4 and suggested to remove the overlapping topics in "Deep learning" course like "deep neural networks". • In 23CS46E/23IT46E/23AD46E- Ethical AI, in CO4, ethical issues of AI in banking, Judicial AI may be included and the reference book "AI ethics by Mark Coeckelbergh, MIT press" may be given as text book. • "Artificial general intelligence" and Machine learning operations (MLOps) courses may be included in the "Industrial AI domain" verticals.	As per suggestions, COs are reduced to 4 and deep neural networks topics are removed. As per suggestions, in CO4, ethical issues of AI in banking and Judicial AI are included and the reference book, "AI ethics by Mark Coeckelbergh, MIT press" is given as a text book. "Artificial general intelligence" and Machine learning operations (MLOps) courses were included in the "Industrial AI domain" verticals.
Augmented Reality/ Virtual Reality • In 23CS35E/23IT35E/23AD35E – Augmented Reality and Virtual Reality course, the contents of CO1 may be reduced. • In 23CS37E/23IT37E/23AD37E – Design of Virtual Reality Systems course, CO3 contents to be restructured as per the project based component. Also, insisted on including the latest edition of textbooks.	As per suggestion, the contents of CO1 are reduced. As per suggestion, in CO3, the project based component is restructured and included the latest edition of textbooks.

Computational Intelligence • One of the experts suggested renaming the vertical from Computational Intelligence to Cognitive Intelligence. However, considering the course coverage in alignment with the IEEE Computational Intelligence Society (PSC of B.E CSE Programme), it has been decided to retain the vertical name as Computational Intelligence.	As per IEEE CI Society guidelines, the vertical name is retained and communicated to BoS members.
• In 23CS23E/23IT23E – AI tools for Natural Language Processing course, instead of insisting (NLTK, SpaCy, Transformers, etc.) many tools, it is suggested to explore any one of the tools.	The corrections are carried out and syllabi updated
• In 23CS25E/23IT25E – Fundamentals of Deep Learning course, suggested to remove the overview of ML topics under CO1. Also it is informed to practice the pre-trained model explorations during lab practices. Also it is suggested to follow MLOps frameworks to enhance the skills of model development and deployment.	As per suggestion, redundant contents in CO1 are removed and usages of MLOps frameworks for hands-on practices are incorporated.
• In 23CS28E/23IT28E – Reinforcement Learning course may be renamed as Reinforcement Learning Techniques	As per suggestion, "23CS28E/23IT28E – Reinforcement Learning" course is renamed as "Reinforcement Learning Techniques".
Business Analytics • In 23CS67E/23IT67E/23AD67E-Feature Engineering course, the content under CO4 may be refined by removing topics such as Embedded Methods: Regularization and Tree-based Methods including Random Forest, Gradient Boosting, and XGBoost. The contents under CO5 in the Feature Engineering course, can be better organized by focusing on conducting periodic reviews to evaluate performance.	As per suggestions, few identified topics in CO4 are removed and CO5 is refined.
• Certain topics in 23CS68E/23IT68E/23AD68E - Predictive Analytics course overlaps with the 23CS62E/23IT62E/23AD62E - Data Mining course. Those redundant contents may be removed and replaced with predictive modeling techniques to enhance the course relevance and depth	As per suggestions, the overlapping concepts are removed and predictive modelling techniques are included in the Predictive Analytics course.

Cyber Security • In 23CS55E/ 23IT55E/ 23AD55E-Social Network Security, CO2 may be removed completely and CO3 may be splitted into two distinct COs (CO2 and CO3). Also, the necessity of including access control mechanisms for social network security course may be assessed. Topics such as phishing attacks may be included.	As per suggestions, CO2 is removed and CO3 contents are organized under CO2 and CO3. Also, topics on phishing attacks are included.
• In 23CS59E/ 23IT59E/ 23AD59E- Digital Forensics, Course Outcomes may be refined for clarity and relevance. Topics on Data Recovery and Incident Response may be included. CERT-In guidelines may be referred to identify additional relevant topics.	As per suggestions, the CO statements are reframed and the required corrections are carried out.
• In 23CS56E/ 23IT56E/ 23AD56E- Cyber Security and Ethical Hacking, duplication of tools with similar functionalities may be avoided. Also, the number of tools covered may be reduced; tool-related content may be refined and focus for better clarity and depth. Topics on Nessus for Vulnerability Assessment may be included.	As per suggestions, the duplications are removed and necessary topics are included both in theory and lab courses.
Modifications of Core Courses for R2023 (B.E.(CSE) & B.Tech (IT)) • For B.E. (CSE) & B.Tech (IT), in 23CS54C / 23IT53C - Modern Web Technologies course, the L, T, P and E are refined as 1, 0, 2 and 4. Also, the refined syllabus is presented in the meeting. • For B.Tech (IT), the integrated courses 23IT61C - Machine Learning and 23IT62C - Cloud Computing in the 6th Semester are restructured as Theory and Laboratory courses. The L, T, P, E and C of the courses are mentioned accordingly. Also, the syllabus for the courses are presented in the meeting and approved. **PG Programmes (M.E. (CSE) &M.Tech (ICW))** • The PG core course "Advanced Data Structures" is made common for both M.E CSE and M.Tech ICW.	BoS members have recommended and approved the modifications.

06/12/24

CHAIRMAN
BOS / AI&DS

CHAIRMAN
BOS / IT

6/12/24

CHAIRMAN
BOS / CSE

24th BOARD OF STUDIES MEETING - DEPARTMENT OF CSE, IT

&

6th BOARD OF STUDIES MEETING - DEPARTMENT OF AI&DS ON 06.12.2025