MEETING NO:

DATE: 24/07/2023
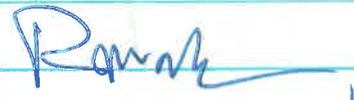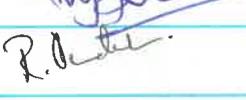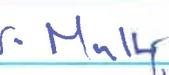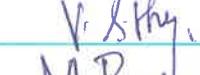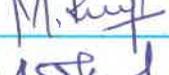
VENUE: IT 214

Minutes of the Board of Studies meeting held on 24/07/2023, Monday at AM in IT 213.

Agenda: 1) Regulation - 2021 - For Students admitted from 2021 Onwards - Approval of the Syllabus for subjects under the Major and Minor verticals.

2). Regulation 2023 (students admitted from 2023 onwards) Subject of study, Syllabus for subjects from sem I to sem VIII, Professional Electives, Majors + Minors

MEMBERS PRESENT

S.NO	NAME	SIGNATURE
1.	Dr. R. Valliappan Raman.	
2.	Dr. N. Arul Anand. (PSG, CBE)	
3.	Dr. L. S. Jayashree (PSG, CBE)	
4.	Dr. J.C. Miraclin Joyce Pamila (GCT, CBE)	
5.	Mr. C.R. Pradeep.	
6.	Dr. N. Muthukumarasamy	
7.	Dr. P. Thanapackiam	
8.	Dr. S. Murali	
9.	Dr. V. Arthy.	
10.	Dr. M. Prabhavathy.	
11.	Dr. M. Karthiga	

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Chairperson: Dr. Valliappan Raman, Head of Department, Artificial Intelligence and Data Science
Presentation: Dr. Valliappan Raman, Head of Department, Artificial Intelligence and Data Science

Dr. Valliappan Raman welcomed the panel members and presented the minutes of the previous meeting. He then proceeded to outline the main agenda concerning the subject of study and curriculum for the BTech AI and DS program.

The agenda for the department of AI and DS was to seek board approval for the syllabus of Majors and Minors Verticals under Regulation 2021 (for students admitted in 2021 and onwards) and Regulation 2023 (for students admitted from 2023 onwards). This approval encompassed the Subject of Study, Syllabus, Professional Electives, Major, and Minor Verticals.

Agenda No. 1: R2021- (For students admitted in 2021 and onwards) Approval of the syllabus for subjects under the Majors and Minor verticals.

Key points:

- The Head of the meeting first presented the first vertical Major in Robotics. During the meeting, the panel inquired about the presence of prerequisites in the curriculum. The Head of the Department (HOD) responded by stating that while prerequisites are not mandatory, including them in the curriculum would be beneficial as it would help students gain a clearer understanding of the requirements for each subject.
- After a thorough review of the subjects under robotics, the panel suggested revising the credit distribution to 2-1-0 instead of the current 3-0-0 structure. The rationale behind this proposal is to provide students with a more hands-on experience in robotic subjects, emphasizing practical learning over purely theoretical knowledge.
- During the meeting, the Head of the Department (HOD) conducted a detailed review of the curriculum for the Robotics subjects. The panel members expressed their concern, stating that each unit in the control systems appeared to be a subject in its own right and felt that students might struggle without certain fundamental knowledge.
- In response, the HOD explained that the syllabus was meticulously designed with the assistance of Roboto AI, a company with extensive experience in conducting Robotic classes for engineering colleges. The collaboration ensured that the curriculum was well-structured and aimed to provide students with a comprehensive understanding of the subject matter despite the complexity of some units. The involvement of Roboto AI added confidence that the syllabus would effectively prepare the students for their studies in Robotics.
- The panel raised a concern about the potential overlap in content observed in certain subjects. In response, the Head of the Department (HOD) acknowledged that some overlap was indeed inevitable in the field of AI.

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- However, the HOD emphasized that revisiting the fundamentals in these overlapping areas would prove beneficial for the students, as it would lead to a deeper and more comprehensive understanding of the subject matter. The approach of reinforcing key concepts would strengthen the students' knowledge base and their ability to apply these principles across different AI subjects.

- After discussing the Robotics subjects, the Head of the Department (HOD) proceeded to present the next vertical, "Advanced Machine Learning and Analytics." However, the panel members suggested renaming the vertical to simply "Machine Learning and Analytics."

- The rationale behind this suggestion was not mentioned explicitly, but it could be to avoid the use of the term "Advanced," which might imply a higher level of difficulty or prerequisites that could limit student enrolment or cause confusion. The simplified name "Machine Learning and Analytics" could be more inclusive and clearer in conveying the focus of the vertical. The HOD would likely take the panel's suggestion into consideration for further discussion and decision-making.

- During the discussion of the "Advanced Machine Learning and Analytics" vertical, the panel proposed renaming the subject to "Design and Analysis of Algorithms" from "Analysis and Design of Algorithms."

- After discussing the "Advanced Machine Learning and Analytics" vertical, the Head of the Department (HoD) proceeded to present the next vertical, "AI Software Development Practices." During the discussion of this vertical, the panel suggested renaming the subject "Introduction to DevOps" to simply "DevOps." This renaming likely aims to designate the subject as a full-fledged and comprehensive course on DevOps within the majors, without implying that it is merely an introductory or basic level course.

- The panel members raised a query regarding whether the curriculum for the "Software Testing" vertical includes coverage of both software testing and quality assurance. The Head of the Department responded positively, affirming that the curriculum indeed encompasses both these important aspects.

- During the meeting, the panel suggested renaming the subject "Biometrics" to "Biometric Systems." The rationale behind this proposal is to provide a clearer and more specific representation of the subject's focus.

- During the discussion, the panel recommended including subjects related to security within the "AI Software Development Practices" vertical. The addition of security-related subjects would be aimed at equipping students with essential knowledge and skills to address security challenges and vulnerabilities in AI software development.

- During the meeting, the panel suggested introducing new subjects such as Generative AI and TinyML, similar to the offerings available at Cambridge University. The inclusion of these cutting-edge topics would enable students to explore and gain expertise in emerging fields within artificial intelligence.

  The Head of the Department presented the next vertical, "Emerging Digital Technologies."

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- During the discussion of the subjects under the "Emerging Digital Technologies" vertical, the panel suggested removing "Introduction" from the subject titled "Introduction to Virtual Reality."
- During the discussion of the "Emerging Digital Technologies" vertical, the panel suggested that "Virtual Reality" might not be considered as new as other technologies. Instead, they recommended introducing newer subjects like "Metaverse" and "Augmented Reality."
- Panel suggested focusing on edge computing due to the industry's shift away from fog computing.
- During the meeting, the panel members proposed the removal of the Semantic Web Application course from the curriculum of the respective vertical. The panel assessed that the Semantic Web Application course might not align well with the current focus or objectives of the vertical. Instead, the panel suggested introducing speech recognition as part of the "Emerging Digital Technologies" vertical. This recommendation was due to the growing importance of speech recognition technology in various applications, such as virtual assistants, voice-controlled devices, and voice-enabled systems.
- The panel suggested introducing a subject called "Large Language Models" as part of the curriculum. This subject likely focuses on the study and application of large language models, such as GPT-3.5
- The panel also recommended renaming the vertical from "Emerging Digital Technologies" to "Smart Digital Technologies."
- During the meeting, the Head of the Department (HoD) presented the next vertical, "Minor in Business Data Analytics," which was intended for students from other disciplines. After a thorough review of the subjects within this vertical, the panel members suggested offering a "Minor in Artificial Intelligence" with a lighter version of the basics of Artificial Intelligence subjects instead.
- The panel's recommendation stemmed from the recognition that Artificial Intelligence (AI) is a sought-after skill in the job market. By offering a "Minor in Artificial Intelligence" to students from other disciplines, they can gain valuable AI knowledge and expertise, which would significantly enhance their employability and open up new career opportunities.

Resolution: Resolved by agreeing to anna university nominee and panel feedbacks.

Agenda 2: Regulation 2023 (Students admitted from 2023 onwards) Subject of Study, Syllabus for Subjects from Sem I to Sem VIII, Professional Electives, Majors and Minors.

Key points:

- During the meeting, the Head of the Department (HoD) presented the Subject of Study and the curriculum for Regulation 2023 (R2023). The HoD informed the panel members that the curriculum would include five theoretical subjects and three laboratories, uniformly distributed throughout all eight semesters. Additionally, the HoD mentioned that the curriculum would have mandatory courses up to the sixth semester.

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- Furthermore, the HoD clarified that there were no alterations to the Science, Humanities, Mathematics subjects, Program Core, Electives, or the verticals within the curriculum, other than the adjustment in the number of units. It was also emphasized that the total number of contact hours remained unchanged, indicating that the students would still receive the same amount of instructional time as before, ensuring that they cover the necessary course materials comprehensively.

- By restructuring the units without compromising the educational standards, the HoD aimed to streamline the assessment process and improve the overall learning experience for the students.

- During the semester review, the panel suggested renaming the subject "Introduction to Programming" to "Problem Solving using C Programming" and the corresponding laboratory to "C Programming Laboratory." The rationale behind this recommendation is to highlight and emphasize to recruiters that the students have acquired proficiency in the C programming language.

- During the review of the C Programming Laboratory, the panel recommended including more problems related to dynamic memory allocation.

- During the review of the Semester II syllabus for Digital Logic Design curriculum, the panel suggested including VHDL (VHSIC Hardware Description Language) programming as part of the course. The addition of VHDL programming in the curriculum would enable students to learn a hardware description language used for modelling and simulating digital systems and circuits.

- During the review of the Semester III syllabus, the Head of the Department (HoD) brought attention to the change in the course name from "Principles of Artificial Intelligence" to simply "Artificial Intelligence," as per the panel's suggestions during the last meeting.

- During the review of the Semester IV subjects, the Head of the Department (HoD) highlighted the change in the subject name from "R Programming" to "Statistical Programming for Data Science," as per the discussion in the last meeting.

- During the meeting, the panel inquired about the timing of internships for students. The Head of the Department (HoD) responded by stating that students would go for internships during the V semester.

- During the meeting, the panel provided valuable feedback on the course outcomes by recommending the use of measurable action verbs instead of generic terms like "learn."

- Measurable action verbs such as "understand," "summarize," and "demonstrate" provide specific and quantifiable objectives for the students. These action verbs allow for more precise assessment and evaluation of students' achievements, enabling educators to gauge the extent to which the intended learning outcomes have been met.

- During the meeting, the panel raised a question about whether the allocated two hours for Object-Oriented Programming in Java would be sufficient. The Head of the Department (HoD) clarified that OOP is covered in Python. In response to this, the panel proposed an alternative approach to optimize the learning experience. They suggested that students should learn the concepts of OOP in Python but experiment and apply those concepts in Java.

- In Semester VII, the panel suggested to rename "IoT and its Applications" to Internet of Things.

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- In generic, there is no major changes in Regulation 2023, minor changes include latest topics in the subjects and title of the subjects.

Chairperson request for the approval of changes and thanked the panel members for their valuable time and constructive feedbacks

The Board has approved the syllabus for the Majors in Robotics, Machine Learning and Analytics, AI Software Development Practices and Smart Digital Technologies and Minor in Artificial Intelligence in R2021 Regulation (for students admitted from 2021 onwards) subject of study and syllabus for Sem I to Sem VIII for R2023 (Students admitted from 2023 onwards) , Professional Electives, Majors in Robotics, Machine Learning and Analytics, AI Software Development Practices and Smart Digital Technologies and Minor in Artificial Intelligence

Approved by

Dr.VALLIAPPAN RAMAN
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Department of AI And DS
Coimbatore Institute of Technology
Coimbatore - 641014.