ACADEMIC AFFAIRS OFFICE
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

No. Acd./5392/IAPC-136   Dated: December 28, 2023

<u>**Head, Mehta Family School of Data Science and Artificial Intelligence**</u>

The IAPC in its 136th meeting held on 22.12.2023 vide Item No. 136.3.2 has approved course outlines of the following PCCs of B.Tech. in Data Science and Artificial Intelligence of old UG curriculum by Mehta Family School of Data Science and Artificial Intelligence:

    (i) DA-202: Applied Machine Learning
    (ii) DA-204: Artificial Intelligence
    (iii)DA-208: Time Series Analysis

The approved course outlines are attached as **Appendix-A.**

Assistant Registrar
(Curriculum)

Encl. Appendix-A

<u>**Copy to**</u> (through e mail):-

1. All faculty
2. Chairperson, ScAPC of Mehta Family School of Data Science and Artificial Intelligence
3. Dean, Academic Affairs
4. Associate Dean of Academic Affairs (Curriculum)
5. Deputy Registrar, Academic Affairs Office
6. Channel i/ AIS (acad.iitr.ac.in)/ Academic webpage of iitr.ac.in

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF SCHOOL: Mehta Family School of Data Science and Artificial Intelligence

Subject Code: DA-202   **Course Title**: Applied Machine Learning

L-T-P: 3-1-0   **Credits:** 4   **Subject Area:** PCC

Course Outline: Introduction to Machine Learning; Linear Models for Regression and Classification; Performance Metrics; Unsupervised Learning; Decision Tree Learning; Instance-based Learning; Support Vector Machines; Bayesian Learning; Reinforcement Learning; Application of Machine Learning models in Healthcare, Transportation, and Finance.

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NAME OF SCHOOL: Mehta Family School of Data Science and Artificial Intelligence

Subject Code: DA-204 **Course Title:** Artificial Intelligence

L-T-P: 3-1-0 **Credits:** 4 **Subject Area:** PCC

Course Outline: Introduction to Artificial Intelligence; Search; Knowledge, Reasoning and Planning; Uncertainty Theory and Learning; Computational Learning Theory; Artificial Neural Network; Introduction to Deep Learning; Applications of AI.

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

NAME OF SCHOOL: Mehta Family School of Data Science and Artificial Intelligence

Subject Code: DA-208   **Course Title:** Time Series Analysis

L-T-P: 3-1-0   **Credits:** 4   **Subject Area:** PCC

Course Outline: Introduction to Time Series; Probability Models for Time Series; Spectral Analysis; Non-stationary and Seasonal Time Series Models; Multivariate Time Series; State Space Models; Introduction to Dimensionality Reduction; Conditional Heteroscedastic Models; Coding in time-series data analysis.