

Sub: Continuous professional education in Information Systems related fields

Dear All,

As you are aware, most of the functions of IA&AD has been moved to online mode. We have state of the art IS infrastructure and applications for all our functions. However, in order to get the optimum output from the system, all the officers and staff of the department need to continually upgrade their knowledge and skill in the IT sector. Of late, there has been massive growth in Edutech field whereby a lot of content of high quality is available online for anyone who wish to upgrade the skill set.

It has been decided that our officers and staff should take advantage of this and enrol in the courses available online free of cost to upgrade their knowledge. The courses are offered by Swayam, an initiative of IIT Madras and iGOT Karmayogi platform and are of very high quality. At the end of the course one can get a certificate as well as some credit points which can be used in future courses.

It is advised that all the staff and officers, including IAAS officers must enrol in at least one course out of the list of courses attached as well as by browsing the iGOT courses, within a week of receiving this mail. The list is an indicative list only. For iGOT courses, one may register on the portal and join relevant courses on foundations of AI, Machine learning and statistics.

HODs are requested to please monitor the enrollment through the existing reporting mechanism for capacity building. The report should mention total enrollment course-wise and name-wise with a clear division of iGOT courses and Swayam Courses.

This issues with the approval of DAI (CRA) and CTO.



B K Mohanty
Director General (IS)

Brief overview on Courses on iGot and Swayam portals

Continuous Professional Education in Information Systems: Enhancing Skills in AI, ML, Statistics, and Mathematics

In our mission to adapt to the evolving digital landscape, it has become imperative to continually upgrade our skills and knowledge in the IT sector. With the transition of most IA&AD functions to online platforms, it is crucial for all officers and staff to gain a deeper understanding of Information Systems, particularly in areas like Artificial Intelligence (AI), Machine Learning (ML), and Data Analytics.

To equip our team with the foundational skills necessary for these advancements, a curated list of free, high-quality online courses is provided. These courses are offered by the SWAYAM Portal, an initiative by IIT Madras, and are specifically tailored to introduce key concepts in AI, ML, and related fields.

Importance of Statistics and Mathematics for AI and ML in Audit Work

The effective implementation of AI and ML in auditing requires a solid foundation in statistics and mathematics. These disciplines form the backbone of data analysis, predictive modelling, and algorithm design. By mastering these basics, auditors can:

- **Understand Data Patterns:** Identify trends and anomalies that may indicate areas of concern.
- **Develop AI Applications:** Utilize statistical and mathematical techniques to build simple AI/ML models for audit processes.
- **Prepare for Advanced Learning:** Create a pathway to learn advanced statistics and programming languages like R or Python for deploying sophisticated models in the

Recognizing this, the following courses have been identified on the **SWAYAM Portal**, an initiative by IIT Madras, for all officers and staff to undertake as part of our Continuous Professional Education program. These courses are free of cost, of high quality, and offer certification upon completion.

Recommended Courses

Foundational Courses

1. **Fundamentals of Artificial Intelligence**
By Prof. Shyamanta M. Hazarika | IIT Guwahati
[Course Link](#)
A beginner-friendly introduction to AI concepts and applications.
2. **A Basic Course in Machine Learning for All**
By Sumitra Padmanabhan
[Course Link](#)
Learn the fundamental principles of Machine Learning and its practical uses.
3. **Essential Mathematics for Machine Learning**
By Prof. S. K. Gupta, Prof. Sanjeev Kumar | IIT Roorkee
[Course Link](#)

Focus on mathematical concepts critical for AI and ML, such as linear algebra and calculus.

4. Descriptive Statistics with R Software

By Prof. Prashant Jha, Prof. Shalabh

[Course Link](#)

Understand statistical methods using R, a versatile tool for data analysis.

Any other course related to introduction/Use of AI , ML and data analytics may also be chosen.

Advanced Learning Opportunities

Staff interested in delving deeper may later explore advanced courses in statistics and programming, such as:

1. **Inferential Statistics and Predictive Analytics**
2. **Advanced Machine Learning with Python or R**

Why These Courses important

- **Enhanced Auditing Capabilities:** Learn how AI and ML can automate data analysis and identify anomalies effectively.
- **Data-Driven Insights:** Use statistical techniques to interpret audit data and support decision-making.
- **Future Readiness:** Equip yourself to audit systems that increasingly rely on AI, ensuring compliance with ethical and regulatory standards.

All officers and staff, including IAAS officers, are advised to enrol in at least one course from the above list as well any similar courses on iGOT platform within a week of receiving this email. Enrolment and completion of courses should be maintained at office level and the same will be taken by CTO wing for database creation for future use.

How to Enrol

a. SWAYAM portal

1. Visit the SWAYAM Portal: <https://swayam.gov.in>.
2. Search for the recommended courses.
3. Register and start learning.

b. iGOT

1. Visit iGOT Karmayogi portal: <https://igotkarmayogi.gov.in/#/>
2. Click "Sign Up" or "Register" on the homepage.
3. Fill in your details (name, email, phone, and relevant ID).
4. Verify your account via the confirmation link sent to your email/SMS.
5. Log in and explore available courses