DETAILED SESSION PLANNING

The session planning will be as follows:

BASIC AICTE ATAL FDP/CPDP

Week **Offline 9:00-5.00pm**

ATAL Application Number: 1743240118

Title of the FDP: Climate and Environmental Data Analytics for Sustainable Development

FDP Start Date: 24.11.2025 **FDP End Date:** 29.11.2025

Time	Day 1(24.11.2025)	Day 2 (25.11.2025)	Day 3 (26.11.2025)	Day 4 (27.11.2025)	Day 5 (28.11.2025)	Day 6 (29.11.2025)
9:00 – 9:30	Inauguration					
9:30 – 12:00	**Session 1:** 1. **Name of the Expert:** Dr. Gajanan K. Khadse 2. **Designation:** Chief Scientist, 3. **Organization:** CSIR-NEERI, Nagpur 4. **Experience in Years:** 25 5. **Topic to be taught:** Tools and Techniques in Environmental and Climatic Data Generation and Management	**Session 3:** 1. **Name of the Expert:** Dr. Latesh Malik 2. **Designation:** Associate Professor 3. **Organization:** Government College of Engineering, Nagpur 4. **Experience in Years:** 23 5. **Topic to be taught:** Exploratory Data Analysis (EDA) for Environmental Data	**Session 5**: 1. N**ame of the Expert**: Dr. Tausif Diwan 2. **Designation**: Associate Professor 3. **Organization:** IIIT, Nagpur 4. **Experience in Years**: 15 5. **Topic to be taught**: Predictive Modeling for Climate Change Projections	**Session 7**: 1. N**ame of the Expert**: Dr. Asar Ahmed 2. **Designation**: Assistant Professor 3. **Organization:** LITU, Nagpur 4. **Experience in Years**:15 5. **Topic to be taught**: Remote Sensing & GIS in Climate Monitoring	**Industrial Visit** 1. **Name of the Organization:** Geological Survey of India 2. **Complete address with pin code:** GSI Complex Near TV Tower, Seminary Hills, Nagpur, Maharashtra 440006 3. **Industry Type**: Government Agency **Area of specification**: geo-scientific ministry of mines	**Session 10:** **1. Name of the Expert**: Dr. V. G. Arajpure **Designation:** Principal **Organization:** SCET, Nagpur. **Experience in Years:** 25 **Topic to be taught:** Industry Trends & Collaboration for Sustainable Development
12:00 – 1:00	**Article Discussion: 1. Title of the Research Paper:** Recently emerging trends in big data analytic methods for modeling and combating climate change effects (Part-1) **2. Name of the journal:** Springer (Energy Informatics) **3. Year of Publication:** 2024	**Article Discussion: 1. Title of the Research Paper:** Recently emerging trends in big data analytic methods for modeling and combating climate change effects (Part-2) **2. Name of the journal:** Springer (Energy Informatics) **3. Year of Publication:** 2024	**Article Discussion: 1. Title of the Research Paper:** Big data analytics for adaption to climate change (Part-1) **2. Name of the journal:** IOP Publishing Ltd **3. Year of Publication:** 2022	**Article Discussion: 1. Title of the Research Paper:** Big data analytics for adaption to climate change (Part-2) **2.Name of the journal:** IOP Publishing Ltd **3. Year of Publication:** 2022		**Article Summary:** 1. Recently emerging trends in big data analytic methods for modeling and combating climate change effects 2. Big data analytics for adaption to climate change

1:00 – 2:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
2:00 – 4:30	**Session 2:** 1. **Name of the Expert:** Mr. Nakul Deshmukh 2. **Designation:** Director 3. **Organization:** IBase Technologies, Nagpur 4. **Experience in Years: 27** 5. **Topic to be taught:** Introduction to Climate Science and Sustainability	**Session 4:** **1. Name of the Expert**: Dr. Sanjay Haridas **2. Designation**: Professor **3. Organization**: J D College of Engineering & Management, Nagpur **4. Experience in Year**s: 37 **Topic to be taught**: Effective Implementation of National Education Policy (NEP) 2020: Implementation Challenges & Solutions	**Session 6:** 1. **Name of the Expert**: Mr. Bhagesh Chimote 2. **Designation**: Data Scientist 3. **Organization:** Cojag Smart Technology and Education, Nagpur 4. **Experience in Year**s: 07 5. **Topic to be taught**: Use of AI in Air Quality Prediction and Disaster Forecasting	**Session 8:** 1. **Name of the Expert:** Dr. Kiran Tajne, 2. **Designation:** Professor 3. **Organization:** Government College of Engineering, Nagpur 4. **Experience in Years**: 25 5. **Topic to be taught**: R 6. eal-time Analytics for Disaster Management and Risk Assessment	**Session 9:** 1. **Name of the Expert:** Mr. Nakul Deshmukh 2. **Designation:** Director 3. **Organization:** IBase Technologies, Nagpur 4. **Experience in Years: 27** **Topic to be taught:** Advanced Remote Sensing Techniques for Climate and Environmental Studies	**MCQ & Reflection** Journal (2:00 – 4:00)
4:30 – 5:30	**Hands-on training / Labs:** 1. Explore climate data repositories (NASA, NOAA, Copernicus, World Bank). 2. Use Python (Pandas & Matplotlib) to load and visualize basic climate datasets.	**Hands-on training / Labs:** 1. Scrape real-time weather data using APIs (OpenWeatherMap, NASA POWER). 2. Handle missing values, remove outliers, and format datasets using Python (Pandas & NumPy).	**Hands-on training / Labs:** 1. Load and analyze raster (satellite) and vector (shapefile) data using QGIS or Google Earth Engine (GEE). 2. Generate heat maps of temperature anomalies or deforestation trends	**Hands-on training / Labs:** 1. Perform trend analysis on historical temperature or CO_2 emissions data using Python (stats models, seaborn). 2. Apply Moving Averages and ARIMA models to predict future climate trends.	**Hands-on training / Labs:** 1. Use Power BI or Tableau to create interactive dashboards on climate trends.	**Valedictory Session** (4:00 – 5:00)