

GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI, DoWR, RD & GR
CENTRAL WATER COMMISSION
NATIONAL WATER ACADEMY, PUNE



Session Plan
**Online Training Program on 'Introduction to Python Programming
and Applications in Water Resources Sector'**
(06-17 October 2025)

Day	Topics	Faculty
06.10.2025 1030 Hrs	Inauguration (L)*	
06.10.2025 1100 Hrs	Session 1: Program overview & Introduction to Python Programming	CKS
06.10.2025 1500 Hrs	Session 2: Jupyter Notebooks & Basic Data Types in Python	CKS
06.10.2025 1730 Hrs	Review Webinar (L)*	CKS
07.10.2025 1000 Hrs	Session 3: Data Structures in Python	CKS
07.10.2025 1400 Hrs	Session 4: Functions, Loops and Control Flow in Python	CKS
07.10.2025 1700 Hrs	Review Webinar (L)*	CKS
08.10.2025 1000 Hrs	Session 5: Error and File Handling in Python	CKS
08.10.2025 1700 Hrs	Review Webinar (L)*	CKS
09.10.2025 1000 Hrs	Session 6: Working with Pandas – I	CKS
09.10.2025 1400 Hrs	Session 7: Working with Pandas – II	CKS
09.10.2025 1700 Hrs	Review Webinar (L)*	CKS
10.10.2025 1000 Hrs	Session 8: Geospatial Analysis using Python – Working with Vector Data	CKS
10.10.2025 1700 Hrs	Review Webinar (L)*	CKS
13.10.2025 1000 Hrs	Session 9: Data Visualization using Python	PKG
13.10.2025 1400 Hrs	Session 10: Working with Numpy	CKS

13.10.2025 1700 Hrs	Review Webinar (L)*	CKS
14.10.2025 1000 Hrs	Session 11: Time Series Analysis using Python – Part I	SJ
14.10.2025 1400 Hrs	Session 12: Time Series Analysis using Python – Part II	SJ
14.10.2025 1700 Hrs	Review Webinar (L)*	SJ & CKS
15.10.2025 1000 Hrs	Session 13: Geospatial Analysis using Python – Working with Raster Data	PKG
15.10.2025 1400 Hrs	Session 14: QGIS Customization using Python	PKG
15.10.2025 1700 Hrs	Review Webinar (L)*	PKG & CKS
16.10.2025 1000 Hrs	Session 15: Data Retrieval using Web API using Python	SJ
16.10.2025 1400 Hrs	Session 16: Forecasting and Prediction in Hydrology using Python	SJ
16.10.2025 1700 Hrs	Review Webinar (L)*	SJ & CKS
17.10.2025 1000 Hrs	Session 17: Google Colab for Python Programming	CKS
17.10.2025 1400 Hrs	Session 18: Cloud based Geospatial Data Processing in Python	PKG
17.10.2025 1700 Hrs	Review Webinar, Feedback & Valedictory(L)*	PKG & CKS

* Live Session through Cisco Webex Platform

** Daily Assessment Quizzes will be uploaded on the e-learning platform at 18:00 hrs each day after the sessions. Each quiz will remain open for submission until 18:00 hrs on the following day

\$ Final assessment test will be uploaded on 18.10.2025. E-Certificates will be issued to those participants who submit final assessment test & feedback on or before 24.10.2025.

Course Coordinator – Chaitanya K S (CKS), Deputy Director, National Water Academy, Central Water Commission, Pune

Faculty Details	
PKG	Sh. Prasun Kumar Gupta, Scientist/Engineer – SF, Indian Institute of Remote Sensing, ISRO, Dehradun
SJ	Sh. Sukant Jain, Scientist C, National Institute of Hydrology, DoWR, RD & GR, Ministry of Jal Shakti Roorkee