

## **Course Contents for the Training Program on Multimedia Forensics**

### **Day: -1**

- An Introduction to Digital Multimedia Forensics
- Introduction to audio forensics and importance of audio evidences in forensic investigation
- Physiology of voice and understanding speech acoustics of speech
- Enhancement and Normalization of audio files

### **Day: -2**

- Forgeries its audio samples and authentication of audio evidences
- Collection, handling and preservation of multimedia evidences
- Speaker profiling techniques and collection of control samples.
- Forensic examination of video, image and CCTV evidences

### **Day: -3**

- Digital Video and Image processing
- Tools and techniques for analysis of video and image evidences
- Technical aspects of video and image
- Introduction to emerging cyber threats for multimedia evidences

### **Day: -4**

- An Introduction to the Video surveillance system
- Image sensors, their types, and working
- Facial Recognition techniques with related case studies
- Role of multimedia evidences in effective Policing

### **Day: -5**

- Tools and techniques used for imaging, acquisition and recovery of the multimedia data
- Report Writing for multimedia case
- Legal Admissibility and Evidentiary Value of digital evidences

### **Day: -6**

- Introduction to social media forensics
- OSINT for Cyber Investigations: Gathering Intelligence from Public Online Sources
- Fundamentals of Python and its application in Video Analytics

### **Day: -7**

- Micro-expression analysis/Behavioral pattern analysis from CCTV footage
- Visit to various CoEs of NFSU
- Hands-on training on the technologies used for authentication of CCTV/video footage/Image

**Day: -8**

- Hands-on training on the technologies used for authentication of Audio
- Hands-on training on the Latest technologies used for the recovery of data from damaged devices
- Hands-on training on the technologies used for enhancement and comparison of audio evidences

**Day: -9**

- From Data Mining to Predictive Analysis: AI's Impact on Forensic Investigations
- Facial comparison from CCTV evidence
- Gait pattern analysis and Photogrammetrically analysis from CCTV footage

**Day: -10**

- DeepFakes audio and video detection
- Hands-on training on the technologies used for enhancement of the CCTV footage
- Assessment
- Valedictory