

FORMAT-1 : This timetable 40hrs (5hrs x 08 days) comprise of Core Theory- 34hrs, Labrotary-06hrs, Quiz-2hrs, Introduction & Valediction-1hr

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| Quiz 1 | 27-06-2025 |
| Quiz 2 | 01-07-2025 |

FDP on Deep Learning (40 Hours)

Date :25th June to 02nd July 2025

| Date                          | First Half                                                     |                                        |                                                              |                                                                                    | Second Half                                                    |                                                  |
|-------------------------------|----------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------|
|                               | 10:00 AM to 11:00 AM                                           |                                        | 11:15 AM to 12:15 PM                                         | 12:30 PM to 01:30 PM                                                               | 05:00 PM to 06:00 PM                                           | 06:15 PM to 07:15 PM                             |
| 25-06-2025<br>(Wednesda<br>y) | 09.30AM-10.00 AM                                               | 10.00AM-11.00AM                        | Module I : Dr. Deepak Ranjan Nayak                           | Module I : Dr. Deepak Ranjan Nayak                                                 | Module I : Dr. Neeta Nain                                      | Module I :Dr. Surender Hans                      |
|                               | Introduction                                                   | Module I : Dr. Santosh Kumar Vipparthi | Theory Topic-2 (Bayes Decision Theory)                       | Theory Topic-3 (Linear Discriminant Functions and Introduction to Neural Networks) | Theory Topic-4 (MLP and Backpropagation)                       | Theory Topic-5 (Activation and Loss Functions)   |
|                               | Theory Topic-1 (Overview of Deep Learning)                     |                                        |                                                              |                                                                                    |                                                                |                                                  |
| 26-06-2025<br>(Thrusday)      | Module I : Dr. Neeta Nain                                      |                                        | Module I: Dr. Gautam Kumar                                   | Module II : Dr. Surender Hans                                                      | Module II : Dr. Surender Hans                                  | Module II : Dr. Surender Hans                    |
|                               | Theory Topic-6 ( Optimization Algorithms)                      |                                        | Theory Topic-7 (Regularization & Generalization)             | Theory Topic-8 (Introduction to CNNs)                                              | Theory Topic-9 (CNN Families like LeNet-5, Alexnet, VGG-16,19) | Theory Topic-10 (ResNet, InceptionNet, DenseNet) |
| 27-06-2025<br>(Friday)        | Module II : Dr. Surender Hans                                  |                                        | Module II: Dr. Surender Hans                                 | Module II: Dr. Surender Hans                                                       | Module II : Prof. Rajesh Kumar                                 |                                                  |
|                               | Hands-on 1:CNN                                                 |                                        | Theory Topic-11 (RNN)                                        | Hands-on 2: (RNN)                                                                  | Theory Topic-12 (Explainable AI)                               | Theory Topic-13 (Spiking Neural Network)         |
| 28-06-2025<br>(Saturday)      | Module II : Dr. Surender Hans                                  |                                        | Module II : Dr. Surender Hans                                | Module II: Dr. Vikash Kumar                                                        | Module II : Dr. Ashish Kumar Tripathy                          | Module II : Dr. Ashish Kumar Tripathy            |
|                               | Theory Topic-14 (Autoencoders)                                 |                                        | Theory Topic-15 (Variational Autoencoders)                   | Theory 16: (LSTM, BiLSTM)                                                          | Theory Topic-17 (GANs Models)                                  | Hands-on 3: GAN                                  |
| 29-06-2025<br>(Sunday)        | Module III : Dr. Deepak Ranjan Nayak                           |                                        |                                                              | Module III : Dr. Vikash Kumar                                                      | Module III : Dr. Vikash Kumar                                  | Module III : Dr. Mahipal Jadeja                  |
|                               | Theory Topic-18 (Segmentation Models)                          |                                        | Theory Topic-19 (Zero-Shot Learning and Segmentation)        | Theory Topic-20 (GRU)                                                              | Hands-on 4: (Building LSTM, BiLSTM, GRU)                       | Theory Topic-21 (GNN)                            |
| 30-06-2025<br>(Monday)        | Module III: Dr. Surendra Hans                                  |                                        | Module III: Dr. Surender Hans                                | Module III: Dr. Abhinav Kumar                                                      | Module IV: Dr. Sonam Gupta                                     |                                                  |
|                               | Theory Topic-22 (Attention Mechanism)                          |                                        | Theory Topic-23 (Transformers Architecture)                  | Theory Topic-24 (Overview of NLP)                                                  | heory Topic-25 (BERT and GPT)                                  | Hands-on 5: BERT and GPT                         |
| 01-07-2025<br>(Tuesday)       | Module IV: Dr. Satyendra Singh Chouhan                         |                                        | Lab VI: Dr. Satyendra Singh Chouhan                          | Module IV : Dr. Ram Prasad Padhy                                                   | Module IV : Dr. Irshed Hussain,                                | Module III : Dr. Mahipal Jadeja                  |
|                               | Theory Topic-26 (Diffusion Model)                              |                                        | Hands-on 6: (Diffusion Model)                                | Theory Topic-27 (DL for Autonomous Vehicle)                                        | Theory Topic-28: SNN                                           | Theory Topic-29 (GNN)                            |
| 02-07-2025<br>(Wednesda<br>y) | Module IV : Dr. Swarup Ranjan Behera                           |                                        | Module IV : Dr Mahendra Kumar                                | Module IV : Dr. Santosh Kumar Vipparthi                                            | Module IV : Dr. Vikash Kumar                                   | Module IV : Prof. Rajesh Kumar                   |
|                               | Theory Topic-30: Rapid Prototyping with Pre-trained NLP Models |                                        | Theory Topic-31: Reinforcement learning and it's Application | Theory Topic-32: Application of DL in Underwater Survillence                       | Theory Topic-33 (Deep Learning for Cybersecurity)              | Theory Topic-34 (Deep RL for Robotics)           |

