Semester: 6th			
Paper code: AIML308P	L	T/P	Credits
Subject: Advances in Deep Learning Lab	0	2	1
Marking Scheme			
1. Teachers Continuous Evaluation: As per university examination norms from time to time			
2. End term Examination: As per university examination norms from time to time			

INSTRUCTIONS TO EVALUATORS: Maximum Marks: As per university norms

1. This is the practical component of the corresponding theory paper.
2. The practical list shall be notified by the teacher in the first week of the class commencement under the intimation to the office of the HOD/ Institution in which they appear is being offered from the list of practicals below.
3. Instructors can add any other additional experiments over and above the mentioned in the experiment list which they think is important.
4. At least 8 experiments must be performed by the students.

Course Objectives:

1	To design and implement deep learning models for a variety of tasks, including image classification, object detection, natural language processing, and speech recognition.
2	To evaluate the performance of deep learning models using appropriate metrics and techniques

Course Outcomes:

CO1	Implement deep learning models for a variety of tasks, including image classification, object detection, natural language processing, and speech recognition.
CO2	Apply deep learning algorithms to a real-world problem, optimize the models learned and report on the expected accuracy that can be achieved by applying the models.

Course Outcomes (CO) to Programme Outcomes (PO) Mapping

(Scale 1: Low, 2: Medium, 3: High)

CO/PO	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO1	2	2	2	3	3	-	1	-	1	-	-	2
CO2	2	2	-	3	3	-	-	-	-	-	1	1

List of Experiments:
1. Implement multilayer perceptron algorithm for MNIST Hand written Digit Classification.
2. Design a neural network for classifying movie reviews (Binary Classification) using IMDB dataset.
3. Design a neural Network for classifying news wires (Multi class classification) using Reuters dataset.
4. Design a neural network for predicting house prices using Boston Housing Price dataset.
5. Build a Convolution Neural Network for MNIST Hand written Digit Classification.
6. Build a Convolution Neural Network for simple image (dogs and Cats) Classification

7. Use a pre-trained convolution neural network (VGG16) for image classification.
8. Implement one hot encoding of words or characters.
9. Implement word embeddings for IMDB dataset.
10. Implement a Recurrent Neural Network for IMDB movie review classification problem.
11. Image classification: Building a deep learning model that can classify images into different categories, such as animals, cars, or buildings.
12. Object detection: Developing a model that can identify and locate objects in an image, such as cars, pedestrians, or traffic signs.
13. Generative models: Creating a deep learning model that can generate new content, such as images, music, or text, based on examples provided during training.

Semester: 6th			
Paper code: AIML310T	L	T/P	Credits
Subject: Time Series Analysis and Forecasting	3	0	3
Marking Scheme			
1. Teachers Continuous Evaluation: As per university examination norms from time to time			
2. End term Theory Examination: As per university examination norms from time to time			
INSTRUCTIONS TO PAPER SETTERS: Maximum Marks: As per university norms			
1. There should be 9 questions in the end term examination question paper.			
2. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions.			
3. Apart from Question No. 1, the rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, students may be asked to attempt only 1 question from each unit.			
4. The questions are to be framed keeping in view the learning outcomes of course/paper. The standard/ level of the questions to be asked should be at the level of the prescribed textbooks.			
5. The requirement of (scientific) calculators/ log-tables/ data-tables may be specified if required.			
Course Objectives:			
1.	To learn about important time series models and their applications in various fields.		
2.	To use statistical software to estimate the models from real data and draw conclusions and develop solutions from the estimated models.		
3.	To communicate the statistical analyses of substantial data sets through explanatory text, tables and graphs.		
4.	To combine and adapt different statistical models to analyze larger and more complex data.		
Course Outcomes:			
CO1	Knowledge of basic concepts in time series analysis and forecasting.		
CO2	Understanding the use of time series models for forecasting and the limitations of the methods.		
CO3	Ability to criticize and judge time series regression models.		
CO4	Compare with multivariate time series and other methods of applications.		
Course Outcomes (CO) to Programme Outcomes (PO) Mapping			

(Scale 1: Low, 2: Medium, 3: High)

CO/PO	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO1	1	1	1	1	2	1						2
CO2	2	2	2	2	1				1		1	2
CO3	2	2	2	2	1			1	1		1	2
CO4	3	2	2	3	2			1	1	1	2	3