GALGOTIAS UNIVERSITY

ADMISSION NUMBER												

School of Computing Science and Engineering

Master of Technology in Computer Science and Engineering
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem III - MCSE2323 - Deep Learning Techniques

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1)	Label the parts of a probability distribution: sample space, events, probabilities	K1 (2)
2)	Outline the key steps involved in applying a softmax activation and categorical cross-entropy loss to a CNN classifier.	K2 (4)
3)	Outline the update process of a rule-based optimization algorithm, highlighting its dependency on gradients.	K2 (6)
4)	Construct a neural network architecture with dropout layers and apply it to a classification problem.	K3 (9)
5)	Build a sequential neural network model using Keras for image classification.	K3 (9)
6)	Explain the concept of rule-based updates and how they adjust weights based on predefined criteria.	K5 (10)
7)	Estimate the trade-offs between different YOLO versions (e.g., YOLOv3, YOLOv4) in terms of accuracy and speed.	K4 (12)
8)	Estimate the effect of increasing the dropout rate on the variance of a deep learning model.	K5 (15)
9)	Explain the role of padding in convolutional layers and how it affects the spatial dimensions of feature maps.	K5 (15)
10)	Build a binary image classifier using a CNN architecture and the categorical cross-entropy loss function.	K6 (18)