

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE						
Supplementary Winter Examination – 2025						
Course: B.Tech		Branch : Computer/Computer Science Engg.		Semester :VIII		
Subject Code & Name: BTCOE801A Deep Learning						
Max Marks: 60		Date:		Duration: 3 Hr.		
Instructions to the Students: 1. Each question carries 12 marks. 2. Question No. 1 will be compulsory and include objective-type questions. 3. Candidates are required to attempt any four questions from Question No. 2 to Question No. 6. 4. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 5. Use of non-programmable scientific calculators is allowed. 6. Assume suitable data wherever necessary and mention it clearly.						
					(Level /CO)	Marks
Q. 1	Objective type questions. (Compulsory Question)					12
1	Deep Learning is a subset of					1
	a. Data Mining	b. Machine Learning	c. Computer Vision	d. ANN		
2	Bayesian learning is based on					1
	a. Gradient descent	b. Bayes' theorem	c. Hinge loss	d. None of these		
3	A decision surface separates					1
	a. Features	b. Layers	c. Classes	d. Neurons		
4	Hinge loss is mainly used in					1
	a. Regression	b. Clustering	c. Linear classifiers	d. Autoencoders		
5	Gradient descent is used to					1
	a. Initialize weights	b. Optimize parameters	c. Increase error	d. Normalize data		
6	Backpropagation is used for					1
	a. Forward pass	b. Feature extraction	c. Weight update	d. Data preprocessing		
7	Autoencoders are used for					1
	a. Supervised learning	b. UnSupervised learning	c. Reinforcement learning	d. Online Learning		
8	Convolution layer in CNN is mainly used for					1
	a. Classification	b. Feature extraction	c. Regularization	d. Normalization		
9	Adam optimizer is a combination of					1
	a. SGD and Adagrad	b. Momentum and RMSProp	c. RMSProp and Adagrad	d. SGD and Momentum		
10	Dropout technique helps to prevent					1
	a. Underfitting	b. Overfitting	c. Vanishing gradient	d. Data leakage		

11	LSTM networks are designed to handle					1
	a. Image data	b. Sequential data	c. Tabular data	d. Static data		
12	GAN consists of					1
	a. Encoder and Decoder	b. Generator and Discriminator	c. Actor and Critic	d. Predictor and Optimizer		
Q. 2	Solve the following.					12
A)	Explain Deep Learning and discuss Bayesian learning with suitable examples.					6
B)	Explain linear classifiers and decision surfaces. Describe hinge loss in detail.					6
Q.3	Solve the following.					12
A)	Explain gradient descent and batch optimization techniques used in deep learning					6
B)	Describe Multilayer Perceptron (MLP) and explain backpropagation learning					6
Q. 4	Solve Any Two of the following.					12
A)	Explain unsupervised learning using deep networks with reference to autoencoders					6
B)	Describe the architecture and building blocks of Convolutional Neural Networks					6
C)	Explain transfer learning and discuss its advantages in deep learning applications					6
Q.5	Solve Any Two of the following.					12
A)	Explain Momentum optimizer, RMSProp, and Adam optimizer.					6
B)	Discuss effective training techniques in deep networks such as early stopping and dropout.					6
C)	Explain Batch Normalization, Instance Normalization, and Group Normalization.					6
Q. 6	Solve Any Two of the following.					12
A)	Explain Residual Networks and skip connections with suitable diagrams.					6
B)	Describe classical supervised tasks using deep learning such as image denoising and object detection.					6
C)	) Explain LSTM networks and generative models such as VAE and GAN.					6
	*** End ***					