18 NOV 2025 BE EXTC SEM-VII C SCHEME DL QP CODE: 10094233

(Time: 3 Hours) **[Total Marks: 80]**

N.B: 1. Question No 1 is Compulsory
2. Answer any 3 questions from the remaining questions

Q1		Answer any four questions	
	a.	What are the various steps involved in Back propagation Algorithm?	05
	b.	What is the use of Keras in deep Learning?	05
	c.	Compare L1 regularization with L2 regularization.	05
	d.	Explain what is pooling in CNN? How does it work?	05
	e.	List the applications of GRUs. Draw the architecture.	05
Q2	a.	Briefly explain the steps to create a graph in Tenorflow. Create a graph of binary subtraction in TensorFlow.	10
	b.	What is skip connection in ResNet? With neat diagram, explain the architecture of ResNet.	10
Q3	a.	What is the need for optimization in deep learning? Explain the various adaptive algorithms used for optimization in Deep Learning.	10
	b.	Explain convolution operation with the help of a neat diagram. What is the use of stride in CNN? If the input image size is 28 x 28 , convolution filter size is 3 x 3, what will be the size of the output image if i. Stride is one ii. Stride is 2 Assume No padding.	10
Q4	a.	Draw and explain the architecture of LSTM.	10
	b.	Explain any three types of Autoencoders in details with suitable diagram	10
Q5	a.	With respect to variational autoencoder, define the following terms : i. Reparameterization tricks ii. Loss Function iii. Latent space visualization	10
	b.	Write a short note on application of CNN in object detection	10
Q6	a.	Explain GoogleNet in detail. What is the need for 1 X 1 convolution and inception module?	10
	b.	Define the terms i. Batch Normalization ii. Overfitting iii. Early Stopping iv. Dropout	10

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