RollNo. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2024

Semester V/VII (MINOR DEGREE)
ITM 503 DEEP LEARNING
(Regulation2019)

Time:3hrs Max.Marks: 100

CO1	Understand the role of deep learning in machine learning applications
CO2	Get familiar with the use of tensor flow/keras in deep learning applications
CO3	Design and implement deep learning applications
CO4	Critically analyse different deep learning models in image related projects
CO5	Design and implement convolutional neural networks
CO6	Know about applications of deep learning in NLP and image processing

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)
(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Define perceptron learning theorem	2	CO1	L1
2	Sate the need for nonlinear activation functions?	2	CO1	L2
3	Define convolution process?	2	CO2	L1
4	What are yolo networks?	2	CO2	L1
5	State any two applications of Auto encoders?	2	CO	L1
6	What is the role of Adversarial process in GAN?	2	CO	L2
7	State the advantages of Deep belief networks?	2	CO	L2
8	What is Reinforcement learning?	2	CO	L1
9	How attention models are superior for vision based applications?	2	CO	L4
10	What are the advantages of BERT system?	2	CO	L1

PART- B(5x 13=65Marks)
(Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)	Derive the hidden layer weight updation procedure using back propagation techniques for a multilayer perceptron network	13	CO1	L4
	OR			
11 (b)	Derive the output layer weight updation procedure using back propagation techniques for a multilayer perceptron network	13	CO1	L4

12 (a)	Discuss in detail about an image classification application using Transfer learning.	13	CO3	L3
	OR			
12 (b)	Discuss the design principles followed in YOLO networks with a case study	13	CO3	L3
13 (a)	Discuss in detail about auto encoders architecture with a suitable application	13	CO5	L3
	OR			
13 (b)	Discuss in detail about GRUs for a sequence learning tasks with a case study	13	CO5	L3
14 (a)	Discuss in detail about Restricted Boltzman Machine for travelling sales person problem (optimization task)	13	CO5	L3
	OR			
14 (b)	Discuss the design principles followed in Deep Q networks with a case study	13	CO5	L3
15 (a)	Design an image segmentation / object detection scheme for medical image application using deep learning models		CO6	L4
	OR			
15 (b)	Design a system for Video to text conversion using LSTM models	13	CO6	L4

PART- C(1x 15=15Marks)
(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.	Discuss in detail about dialogue generation models using LSTM	15	CO6	L3