



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

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SECA4002 – DEEP LEARNING NEURAL NETWORKS ASSIGNMENT II

CBCS/ ELCTIVE SUBJECT

Due Date: On or Before 13-09-2021

PART – A ANSWER THE FOLLOWING QUESTIONS		(5 X 1 = 5 MARKS) PI CO
1	Dimensionality reduction algorithms are used to reduce the computation time required to build a model. (Say True or False)	3
2	Principal Components are not as readable and interpretable as original features. (Say True or False)	3
3	Autoencoders are trained using _____. a) Back Propagation b) Perceptron law c) Hebb Law d) Reinforced algorithm	3
4	Autoencoders cannot be used for Dimensionality Reduction. (Say True or False)	3
5	A parameter whose value is used to control the learning process is called a) Hyper-parameter b) Super-parameter c) VC Dimension d) All of the above-mentioned options	3
PART – A ANSWER THE FOLLOWING QUESTIONS		(5 X 1 = 5 MARKS) PI CO
6	The similarity between PCA and Autoencoders is a) Both assume Nonlinear systems b) Both assume Linear systems c) Subspace of weight matrix d) All of the above-mentioned options	3
7	Identify the techniques used to train autoencoders from the given list. 1. Training one layer at a time 2. Then the encoder first and then followed by training of decoder 3. End to End Training a) 1 & 2 b) 2 & 3 c) 1 & 3 d) All of the above-mentioned options	3
8	Justify the need for Pooling layer in a Convnet	3



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9	Illustrate the concept of Inception	3
10	Interpret on the helpfulness of Relu activation function with respect to deep neural structures	3
PART – B ANSWER THE FOLLOWING QUESTIONS		(1 X 5 = 5 MARKS) PI CO
1.	The Block development office of a Municipal Corporation has a large database people coming under its jurisdiction. Along with the name, Address, Marital status, Family tree details it also contains the financial details of all of its people. It also has the list of people who have received govt incentives under various local and federal govt schemes. The municipal administration is tasked with the identification of appropriate peoples who have not brought under any of the government schemes. Since the database has redundancies and more complex suggest a suitable Dimensionality reduction procedure based on Eigen values and Covariance matrix in detail.	3

Note:

- ★ The answers for the above questions can be hand written and upload them in LMS as PDF, DOC, DOCX formats **on or before 13/09/2021**.
- ★ The answer sheets which you submit should have your Name, register number on all pages. Otherwise it will not be evaluated.
- ★ Do not Copy or indulge yourself in any kind of Malpractice, the answers which you submit should be unique from others

*******ALL THE BEST*******