BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MCA **SEMESTER : III**
BRANCH: COMPUTER SCIENCE **SESSION : MO/2022**

SUBJECT: CA525 DEEP LEARNING

TIME: 3:00 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)	Summarize the characteristics of principal component analysis method.	[CO1][BL2]	[2]
Q.1(b)	Explain the solution of XOR problem in artificial neural networks.	[CO1][BL2]	[3]
Q.1(c)	Compare and/or contrast between naïve Bayesian classifier and logistic regression.	[CO1][BL4]	[5]
Q.2(a)	How would you describe feedforward neural networks?	[CO2][BL1]	[2]
Q.2(b)	What is the main idea of perceptron learning rule?	[CO2][BL2]	[3]
Q.2(c)	Based on what you know, how would you explain general weight update in backpropagation?	[CO2][BL6]	[5]
Q.3(a)	How would you explain the idea of regularization?	[CO3][BL1]	[2]
Q.3(b)	Differentiate among the terms 'learning rate', 'momentum', and 'dropout' with respect to deep learning.	[CO3][BL4]	[3]
Q.3(c)	Compare and/or contrast L_1 and L_2 regularization techniques.	[CO3][BL4]	[5]
Q.4(a)	Explain the use of pooling layers in convolution neural networks.	[CO4][BL2]	[2]
Q.4(b)	Explain the main idea of long short-term memory networks.	[CO4][BL2]	[3]
Q.4(c)	Can you identify and explain the different parts of a convolution neural networks?	[CO4][BL4]	[5]
Q.5(a)	Explain the use of autoencoders.	[CO5][BL2]	[2]
Q.5(b)	Illustrate the working of autoencoder in neural networks.	[CO5][BL2]	[3]
Q.5(c)	Compare and/or contrast different autoencoder architectures.	[CO5][BL4]	[5]

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