

Reg.No.:

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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 60004

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – NOV. / DEC. 2024

Seventh Semester

Information Technology

U19ITV32 – DEEP LEARNING

(Regulation 2019)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Which set is used for hyperparameter tuning?	2	K1	CO1
2.	Define bias and variance in ML.	2	K2	CO1
3.	What are the two types of supervised learning?	2	K1	CO1
4.	Is K-nearest neighbour (KNN) algorithm supervised or unsupervised?	2	K2	CO1
5.	Mention the importance of the learning rate in gradient descent.	2	K2	CO1
6.	What is forward and backward propagation?	2	K1	CO1
7.	Define the norm penalty in deep learning.	2	K2	CO2
8.	Where the multi-task learning used?	2	K1	CO1
9.	What is transfer learning using CNNs?	2	K1	CO1
10.	What is stemming in NLP?	2	K1	CO1

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	What are the applications of maximum likelihood estimation? Discuss in detail.	13	K2	CO2
	(OR)			
b)	What is the difference between Bayesian and regular statistics? Explain with an example.	13	K3	CO2
12. a)	Discuss the concept of stochastic gradient descent (SGD) and its advantages and disadvantages.	13	K1	CO2
	(OR)			
b)	Explain supervised and unsupervised algorithms with an examples.	13	K2	CO1
13. a)	Explain the limitations of feed forward networks in detail.	13	K3	CO1
	(OR)			
b)	Discuss the steps involved in Gradient-Based Learning.	13	K2	CO2
14. a)	How does data augmentation reduce overfitting? Explain in detail.	13	K3	CO4
	(OR)			
b)	What are the challenges faced when using supervised regression model?	13	K2	CO2
15. a)	How do you optimize a Deep Learning model? Explain in detail.	13	K3	CO4
	(OR)			
b)	Explain in detail about tokenization in NLP.	13	K1	CO1

PART – C

(1 x 15 = 15 Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	What are the common image preprocessing steps in a computer vision pipeline? Explain the challenges of object recognition in varied lighting and orientations.	7.5+ 7.5 =15	K4	CO3
	(OR)			
b)	What do you mean by text augmentation in NLP? Discuss the different text augmentation techniques in NLP.	7.5+ 7.5 =15	K4	CO5