



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:II
Class:F.Y	Program:M.Tech
Branch Code:ETC	Pattern:2022
Name of Course: VLSI for AI and Neural Networks	Course Code: ETC225109
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 2 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

- 1a) Explain the learning algorithms in neural network (6) CO1

Question No. 2 Attempt following Question

- 2a) what is AnalogVLSI Neural Learning Circuits (6) CO2

Question No. 3 Attempt following Question

- 3a) Explain MANTRA: A multi-Model Neural-Network Computer (8) CO3

OR

- 3b) How VLSI Implementation of a Digital Neural Network with Reward-Penalty Learning works? (8) CO3

- 3c) Draw Neural Network Architecture with Low Latency Digital (8) CO3

OR

- 3d) f)Explain Asynchronous VLSI Design For Neural System Implementation (8) CO3

Question No. 4 Attempt following Question

- 4a) Short note on cascable VLSI Design for GENET (8) CO4

OR

- 4b) DescribeTwo methods for solving Linear equations using Neural Networks. (8) CO4

- 4c) Brief on Knowledge processing in Neural Architecture (8) CO4

OR

- 4d) When should we switch from other generative models to GANs? What is GAN? Discuss in brief. (8) CO4

Question No. 5 Attempt following Question

- 5a) What are Real Time Applications of Prolog VLSI System (8) CO5

OR

- 5b) Describe PALM: A Logic Programming System on a Highly Parallel architecture (8) CO5

- 5c) How Hardware support for data Parallelism in production Systems (8) CO5

OR

- 5d) Explain Architecture and VLSI Implantation of a Pegasus-II Prolog Processor (8) CO5

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