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Question Paper Code: U6E02

B.E./B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Sixth Semester

Artificial Intelligence & Data Science

21UAD602– DEEP LEARNING

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

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| 1. Compare Deep Learning with Machine learning. | CO1- U |
| 2. Define Artificial Neural Networks with real time applications. | CO1- U |
| 3. Compare Activation function and optimizers in deep learning. | CO1- U |
| 4. What are the default activation function for modern neural networks? | CO1- U |
| 5. Define Convolutional networks. | CO1- U |
| 6. What is meant by Generative Adversarial Networks? | CO1- U |
| 7. Differentiate complex layer terminology and simple layer terminology in convolutional network | CO1- U |
| 8. Illustrate Data augmentation and Data preprocessing. | CO2- App |
| 9. Outline the block diagram for LSTM | CO1-U |
| 10. Illustrate important design patterns for recurrent neural networks. | CO2- App |

PART – B (5 x 16= 80 Marks)

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| 11. (a) Explain in detail about how deep learning networks work with real time applications. | CO2- App | (16) |
| Or | | |
| (b) Differentiate scalars and vectors with real time applications in deep learning applications. | CO2- App | (16) |

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| 12. | (a) | Explain in detail about activation functions in neural networks. | CO1- U | (16) |
| | | Or | | |
| | (b) | Explain in detail about hyper parameters in deep learning with real time applications. | CO1- U | (16) |
| 13. | (a) | Outline and explain the Major architectures of Deep Networks. | CO1- U | (16) |
| | | Or | | |
| | (b) | Explain in detail about the Generative Adversarial Networks. | CO1- U | (16) |
| 14. | (a) | Examine the role of Activation functions in neural networks. | CO3- Ana | (16) |
| | | Or | | |
| | (b) | Analyze and write short notes on Dataset Preprocessing. | CO3- Ana | (16) |
| 15. | (a) | Illustrate the design patterns of recurrent neural networks. | CO1- U | (16) |
| | | Or | | |
| | (b) | Discuss Recurrent Neural Networks in detail | CO1- U | (16) |