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5th Sem / Artificial Intelligence & Machine Learning

Subject : Deep Learning and Its Applications

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which optimization technique adjusts weights to minimize the loss? (CO2)

a) Pooling b) Flattening

c) Gradient Descent d) Batching

Q.2 RNNs are specifically suited for: (CO3)

a) Images b) Text and time series

c) Tubular data d) Relational databases

Q.3 Which of the following is a commonly used activation function? (CO1)

a) Mean Squared Error b) Softmax

c) SGD d) Max pooling

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 What are autoencoders? Describe their working and applications. (CO3)

Q.24 Describe the key concepts and significance of Deep Learning in real-world applications? (CO1)

Q.25 Explain the terms in the context of training CNNs: (CO2)

a) fine-tuning

b) transfer learning

c) Hyperparameter tuning

Q.4 Sentiment analysis is part of: (CO4)

a) Image processing

b) Computer vision

c) Natural language processing

d) Data mining

Q.5 Which method helps improve generalization in CNNs? (CO2)

a) Dropout b) Increasing epochs

c) Reducing filters d) No regularization

Q.6 Which of the following is not a deep learning performance metric? (CO1)

a) Accuracy b) Precision

c) Recall d) Weight Decay

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The_____ is the compressed representation in an autoencoder. (CO3)

Q.8 Which library is a high-level API for TensorFlow? (CO1)

Q.9 OCR is a deep learning technique for sound classification. (T/F) (CO4)

Q.10 Define learning rate. (CO2)

Q.11 Which autoencoder type removes noise? (CO3)

Q.12 Image _____ breaks images into meaningful segments. (CO3)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain the gates used in LSTM. (CO3)

Q.14 What is computer vision in deep learning? (CO4)

Q.15 What are pooling layers in CNNs and their functions? (CO2)

Q.16 List and explain common performance metrics in deep learning. (CO1)

Q.17 What is sequence-to-sequence modeling? (CO3)

Q.18 Describe the recommender systems and how does DL enhance them? (CO4)

Q.19 Define precision and Recall with example. (CO1)

Q.20 What is transfer learning in CNNs? (CO2)

Q.21 List healthcare applications of deep learning. (CO4)

Q.22 What are epoches, batches, and iterations in model training? (CO1)