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| **P.V.P Siddhartha Institute of Technology (Autonomous)** | **Signature of Invigilator with date:** | **Marks Obtained:** |
| **Department of Computer Science and Engineering** |
| **Course: B. Tech** | **Year: IV** | **Semester -I** | **Objective-II** |  |  |
| **Regulation: PVP20** | **Maximum Marks: 10M** | **Session: F.N** |
| **A.Y: 2024-25** | **Date:30-09-2024** | **Duration: 20 min** |
| **Subject Code: 20CS4701A** | **Subject Name: Deep Learning** |
| **Registered Number:** | **Name:** |
| **Answer all the Questions. Each Question carries ½ Mark 20×½ M =10M** |
| **S. No** | **Question** | **CO** | **Level** | **Answer** |
| **1.** | **Which layer is typically used to address overfitting in a CNN?** | **CO1** | **L2** |  |
| a) Convolutional layer | b) Pooling layer |
| c) Dropout layer | d) Fully connected layer |
| **2.** | What is the function of the fully connected layers at the end of a CNN? | **CO1** | **L2** |  |
| a) Feature extraction | b) Reduce dimensionality |
| c) Global pooling | d) Classification |
| **3.** | In a CNN, what does the term "stride" refer to? | **CO1** | **L2** |  |
| a) Learning rate | b) The size of the filter |
| c) The step size for sliding the filter over the input | d) Number of filters |
| **4.** | **What is the primary purpose of convolutional layers in a CNN?** | **CO1** | **L2** |  |
| a) Activation | b) Pooling | c) Feature Extraction | d) Fully Connected Layer |
| **5.** | **What is the purpose of the activation function in a CNN?** | **CO1** | **L2** |  |
| a) Normalize the input data  | b) Introduce non-linearity |
| c) Reduce the dimensionality of the data | d) Summarize the features |
| **6.** | **Which layer in a CNN is responsible for reducing the spatial dimensions of the input volume?** | **CO1** | **L2** |  |
| a) Convolution Layer | b) Activation Layer |
| c) Pooling Layer | d) Fully Connected Layer |
| **7.** | **Which layer type is responsible for backpropagating the gradients and updating the network's parameters in** | **CO1** | **L2** |  |
| a) Convolution Layer | b) Activation Layer |
| c) Pooling Layer | d) Fully Connected Layer |
| **8.** | **Which of the following is a potential issue with using RNNs for long sequences?** | **CO1** | **L2** |  |
| a) The vanishing gradient problem | b) The exploding gradient problem |
| c) Both a and b | d) Neither a nor b |
| **9.** | **Which component of a sequence-to-sequence model is responsible for transforming the input sequence into a fixed-size context vector?** | **CO1** | **L2** |  |
| a) Encoder | b) Decoder |
| c) Attention mechanism | d) Embedding layer |
| **10.** | **What is the purpose of the peephole connections in a Long Short-Term Memory (LSTM) network?** | **CO1** | **L2** |  |
| a) To allow the cell state to influence the gating mechanisms |
| b) To adjust the learning rate during training |
| c) To introduce non-linearity to the network | d) None of the Above |
| **11.** | **Which gate in an LSTM is responsible for deciding what new information to store in the cell state?** | **CO1** | **L2** |  |
| a) Input Gate | b) Forget Gate |
| c) Output Gate | d) Update Gate |
| **12.** | **What is the main purpose of the hidden state in a recurrent neural network?** | **CO1** | **L2** |  |
| a) Stores long-term memory | b) Output of the network |
| c) Captures short-term dependencies in the input sequence | d) It is used for updating the parameters of the network |
| **13.** | **What is the spectrogram commonly used for in the context of speech recognition?** | **CO1** | **L2** |  |
| a) Feature extraction from audio signals | b) Text-to-speech synthesis |
| c) Speaker identification | d) Noise reduction |
| **14.** | **Which activation function is commonly used in the hidden layers of convolutional neural networks?** | **CO1** | **L2** |  |
| a) Sigmoid  | b) Linear | c) ReLu | d) Tanh |
| **15.** | **What is the purpose of data augmentation in computer vision tasks?** | **CO1** | **L2** |  |
| a) To reduce the size of the dataset. | b) To increase the computational complexity. |
| c) To artificially increase the diversity of the training dataset. | d) To decrease the generalization capability of the model. |
| **16.** | **What is the primary advantage of using convolutional neural networks in computer vision tasks?** | **CO1** | **L2** |  |
| a) Better handling of sequential data. |
| b) Ability to capture long-term dependencies. |
| c) Parameter sharing and translation invariance. |
| d) Improved interpretability of features. |
| **17.** | **What type of neural network architecture is commonly used for speech recognition tasks?** | **CO1** | **L2** |  |
| a) Recurrent Neural Network | b) Convolutional Neural Network |
| c) Long Short-Term Memory | d) Transformer |
| **18.** | **Which of the following is not a task in natural language processing?** | **CO1** | **L2** |  |
| a) Sentiment analysis | b) Speech recognition |
| c) Image classification | d) Named entity recognition |
| **19.** | **What is Machine Translation?** | **CO1** | **L2** |  |
| * a) Converts one human language to another
 |
| * b) Converts human language to machine language
 |
| * c) Converts any human language to English
 |
| * d) Converts Machine language to human language
 |
| **20.** | **The signal that is used in speech recognition is known as?** | **CO1** | **L2** |  |
| * a) Acoustic signal
 | * b) Electric signal
 | * c) Electromagnetic signal
 | * d) Radar
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