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| **SISTec Logo-Revised (1).png** | | **SAGAR INSTITUTE OF SCIENCE & TECHNOLOGY(SISTec)**  **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  **ASSIGNMENT-3** |
| **BRANCH** | **CSE** |
| **SESSION** |  |
| **NA NAME OF THE FACULTY:**  **SUBJECT/CODE :** | | |

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| Sr. No. | Enrollment No. | Set Number |
| 1 | 0187CE201038,40,76,95,0187cs201002,03 | SET-1 |
| 2 | 0187cs201004,05,06,07,09,10 | SET-2 |
| 3 | 0187cs201011,12,13,15,16, 17 | SET-3 |
| 4 | 0187cs201019,20,21,22,23,24 | SET-4 |
| 5 | 0187cs201025,26,27,28,29,30 | SET-5 |
| 6 | 0187cs201031,32,34,35,36,38 | SET-6 |
| 7 | 0187cs201039,40,41,43,44,45 | SET-7 |
| 8 | 0187cs201047,48,51,52,53,54 | SET-8 |
| 9 | 0187cs201055,56,58,59,60,61 | SET-9 |
| 10 | 0187cs201062,63,0536cs2012,14,41,60 | SET-10 |

**UNIT-3**

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| **Q No.** | **QUESTIONS** | **Bloom’s Taxonomy Level** | **Course Outcomes** |
| **SET 1** | | |  |
| **1.** | **List the required operation to design CNN. Discuss individual in detail.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Why convolution layers are used to build deep neural network model? Also explain with suitable example.** | **1(REMEMBERING)** | **CO3** |
| **3.** | **How to resolve the problem of vanishing/exploding gradient in deep CNN architectures. Also discuss various types of Residual Block.** | **4 (ANALYZE)** | **CO3** |
| **SET 2** | | |  |
| **1.** | **List the required operation to design CNN. Discuss individual in detail.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Contrast the transfer learning? What is the purpose of transfer learning in Deep Learning?** | **1(REMEMBERING)** | **CO3** |
| **3.** | **If the activation function of all hidden unit is linear, show that a MLP is equivalent to a single layer perceptron.** | **5(COMPARING)** | **CO3** |
| **SET 3** | | |  |
| **1.** | **Draw and explain the architecture of Convolutional Network.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Why convolution layers are used to build deep neural network model? Also explain with suitable example.** | **1(REMEMBERING)** | **CO3** |
| **3.** | **How to resolve the problem of vanishing/exploding gradient in deep CNN architectures. Also discuss various types of Residual Block.** | **4 (ANALYZE)** | **CO3** |
| **SET 4** | | |  |
| **1.** | **Draw and explain the architecture of Convolutional Network.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Contrast the transfer learning? What is the purpose of transfer learning in Deep Learning?** | **1(REMEMBERING)** | **CO3** |
| **3.** | **If the activation function of all hidden unit is linear, show that a MLP is equivalent to a single layer perceptron.** | **5(COMPARING)** | **CO3** |
| **SET 5** | | |  |
| **1.** | **Analyse the LeNet-5 architecture with respect to number of parameter on each layer. Also describe the methodology to calculate the parameter of CNN.** | **4 (ANALYZE)** | **CO3** |
| **2.** | **For the given MNIST data set write a program to design the LeNet-5 CNN architecture in Tensor Flow/Keras. Also apply the pre-processing required by following complete machine learning Cycle.** | **4 (ANALYZE)** | **CO3** |
| **3.** | **Explain the Single Layer Neural Network architecture with suitable activation function.** | **1(REMEMBERING)** | **CO3** |
| **SET 6** | | |  |
| **1.** | **Analyse the LeNet-5 architecture with respect to number of parameter on each layer. Also describe the methodology to calculate the parameter of CNN.** | **4 (ANALYZE)** | **CO3** |
| **2.** | **Discuss Google Net architecture. What do you mean by inception network?** | **1(REMEMBERING)** | **CO3** |
| **3.** | **Compare the 1x1 convolution neural network with other f\*f convolutional layer where f is the size of filter. Why it is also called NiN?** | **2(UNDERSTANDING)** | **CO3** |
| **SET 7** | | |  |
| **1.** | **How pooling layer impact the reduction in number of parameter? Discuss different types of pooling layer.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **For the given MNIST data set write a program to design the LeNet-5 CNN architecture in Tensor Flow/Keras. Also apply the pre-processing required by following complete machine learning Cycle.** | **4 (ANALYZE)** | **CO3** |
| **3.** | **Draw and explain McCulloch Pitts neuron Model.** | **1(REMEMBERING)** | **CO3** |
| **SET 8** | | |  |
| **1.** | **How pooling layer impact the reduction in number of parameter? Discuss different types of pooling layer.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Discuss Google Net architecture. What do you mean by inception network?** | **1(REMEMBERING)** | **CO3** |
| **3.** | **Derive the Back Propagation Through Time (BPTT) algorithm used to train the recurrent neural network.** | **4 (ANALYZE)** | **CO3** |
| **SET 9** | | |  |
| **1.** | **Discuss VGG-16 net architecture in detail.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Compare the 1x1 convolution neural network with other f\*f convolutional layer where f is the size of filter. Why it is also called NiN?** | **2(UNDERSTANDING)** | **CO3** |
| **3.** | **Explain sparse and contractive auto encoders.** | **1(REMEMBERING)** | **CO3** |
| **SET 10** | | |  |
| **1.** | **Discuss VGG-16 net architecture in detail.** | **1(REMEMBERING)** | **CO3** |
| **2.** | **Explain following term:**  **Guided Back propagation ii) Dataset augmentation** | **1(REMEMBERING)** | **CO3** |
| **3.** | **Explain the Single Layer Neural Network architecture with suitable activation function.** | **1(REMEMBERING)** | **CO3** |