**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **4BT7102** | Roll No. | Total Printed Pages: 1 |
| **4BT7102** |  |
| B. Tech. IV Year VII-Semester (Main/Back) End Semester Examination, November 20222  **(AI)** | |
| **BAI07102 : Computer Vision** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

*Attempt* ***five*** *questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.*

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** |  | Delhi police want to create a database of people who do bike stunts and also do over speeding on the road, So that the traffic of the city can be disturbed. Write a deep learning algorithm for capturing pictures and sending E-challan to bike owners. | **(12)** | **Create** |
|  |  | **OR** |  |  |
| **Q.2** | **(a)** | What do you mean by CNN and also discuss softmax, cross-entropy in convolutional neural networks? | **(6)** | **Knowledge** |
|  | **(b)** | Discuss the following terminology in detail? pooling, padding, stride | **(6)** | **Analyze** |
|  |  | **UNIT-II (CO2)** |  |  |
| **Q.3** |  | What is clustering and different types of clustering methods such as K-means clustering, hierarchical clustering, spectral clustering discussed with examples? | **(12)** | **Evaluation** |
|  |  | **OR** |  |  |
| **Q.4** | **(a)** | What do you mean by KNN? Discuss | **(6)** | **Analyze** |
|  | **(b)** | Briefly discuss Support vector machine algorithm in convolutional neural network? | **(6)** | **Apply** |
|  |  | **UNIT-III (CO3)** |  |  |
| **Q.5** | **(a)** | Briefly define the first few layers of Residual neural network in convolution network. | **(6)** | **Analyze** |
|  | **(b)** | Define application of Residual neural network (ResNet) in convolution network. | **(6)** | **Apply** |
|  |  | **OR** |  |  |
| **Q.6** | **(a)** | Sketch architecture of Residual neural network (ResNet) in the convolution network briefly explains. | **(6)** | **Evaluation** |
|  | **(b)** | What is residual neural network (ResNet) in convolution network explained in detail? | **(6)** | **Apply** |
|  |  | **UNIT-IV (CO4)** |  |  |
| **Q.7** | **(a)** | In the scenario of deep learning, What do you mean by dense captioning? Discuss. | **(6)** | **Analyze** |
|  | **(b)** | Define image ranking. Implement its concept. | **(6)** | **Evaluation** |
|  |  | **OR** |  |  |
| **Q.8** | **(a)** | Write down an approach for linking image and text in image captioning. | **(6)** | **Apply** |
|  | **(b)** | What is image captioning? Describe with NPL. | **(6)** | **Create** |
|  |  | **UNIT V (CO5)** |  |  |
| **Q.9** | **(a)** | Discuss non-max suppression in single-shot-detections. What do you mean by object detection in single-short-detection? | **(6)** | **Apply** |
|  | **(b)** | Define team intersection over union in single-shot-detection. | **(6)** | **Analyze** |
|  |  | **OR** |  |  |
| **Q.10** | **(a)** | What do you mean by object detection in single-short-detection? | **(6)** | **Create** |
|  | **(b)** | Write down the application of single short detection. | **(6)** | **Evaluation** |