Total No. of Questions – [06] Total No. of Printed Pages: 02

GR. No.	

DECEMBER 2021 - ENDSEM EXAM
FINAL YEAR B. TECH (INFORMATION TECHNOLOGY) (SEMESTER - I)
COURSE NAME: PROFESSONAL ELECTIVE-IV (DEEP LEARNING)
COURSE CODE: ITUA40181A
(PATTERN 2018)

Time: [1 Hour] [Max. Marks: 30]

Instructions to candidates:

1) **Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed**
4) **Use suitable data where ever required**

Q.1) a) Compare and Contrast GRU and LSTM. [4]

b) Illustrate with an example why Gradients Explode or Vanish in Recurrent Neural Network. [6]

OR

Q.2) a) Elaborate with an example how do we set the input and recurrent weights so that a rich set of histories can be represented in the recurrent neural network state? [4]

b) Use Long Short-Term Memory for Echoing a Random Integer – random sequences of integers are generated. The model must remember an integer at a specific lag time and echo it at the end of the sequence. [6]

Q.3) a) Define Image Captioning? Illustrate how deep learning is applied for automatic image captioning. [4]

b) Object Detection can be performed using image processing techniques and deep learning models. How image processing techniques and deep learning models differ when used for Object Detection? [6]

OR

Q.4) a) Illustrate applicability of Generative adversarial networks (GAN) in real word with an example. [4]

b) Elucidate how Encoder-decoder RNN with Attention and Encoder-decoder RNN without Attention model differ? [6]

Q.5) a) Compare and contrast tensorflow and pytorch. [4]

b) Define tf.keras? Illustrate the use tf.keras API in defining models in Deep Learning Model Life-Cycle. [6]

OR

Q.6) a) Differentiate between between Tensor.eval() and Session.run()? [4]

b) Compare and contrast Torch, keras and caffe. [6]