PAPER ID-310751

Subject Code: KCS078

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM VII) THEORY EXAMINATION 2023-24
DEEP LEARNING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

Qno.	Question	Marks	CO
a.	Define artificial neuron.	2	1
b.	Give the difference between binary and bipolar sigmoid function.	2	1
c.	What do you mean by loss function and gradient descent?	2	2
d.	Why bias value use in the neural network?	2	2
e.	Differentiate between supervised and unsupervised learning.	2	3
f.	What are the advantages of Convent?	2	3
g.	How to achieve optimization in deep learning?	2	4
h.	Explain Recurrent network.	2	4
i.	How useful is deep learning in bioinformatics?	2	5
j.	Explain Image-net.	2	5

SECTION B

2. Attempt any *three* of the following:

a.	Explain in detail the architecture of Mc Culloch – Pitts neuron model andrealize 3-input NAND gate, NOR gate using the above neuron model.	10	1
b.	Differentiate between linearly separable patterns and non-linearly separable patterns with suitable examples.	10	2
c.	Explain batch normalization in detail.	10	3
d.	Compare and contrast stateful and stateless LSTMS.	10	4
e.	Explain competitive learning using self-organizing maps.	10	5

SECTION C

3. Attempt any *one* part of the following:

a.	Explain back propagation algorithm with its advantages and disadvantages.	10	1
b.	Compare and contrast single layered model and multi layered perceptron model.	10	1

4. Attempt any *one* part of the following:

a.	Explain Batch normalization in detail.	10	2
b.	Differentiate neural nets and shallow neural nets.	10	2

5. Attempt any *one* part of the following:

a.	Explain ConvNet in detail.	10	3
b.	Explain the working of Gated Recurrent Unit.	10	3

6. Attempt any *one* part of the following:

a.	Explain the optimization process in deep learning.	10	4
b.	Describe the role of Spatial Transformer Networks in detail.	10	4

7. Attempt any *one* part of the following:

a.	Define bioinformatics. Explain its techniques.	10	5
b.	What is meant by Image net- Detection? Explain.	10	5