

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- April 2019

B.Tech CSE/IT VIII Semester

COURSE CODE: 18B1WCI831

MAX. MARKS: 25

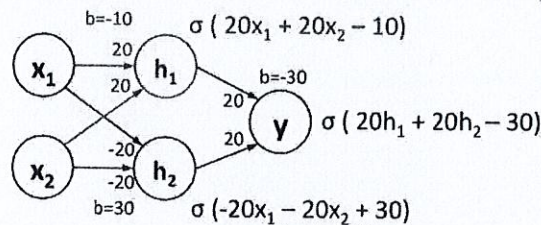
COURSE NAME: DEEP LEARNING

COURSE CREDITS: 03

MAX. TIME: 1.5Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. (a) Solve the XOR with a hidden layer shown Below. [2.5]



- (b) Why are GPUs necessary for building Deep Learning models? [2.5]

2. (a) Explain how to calculate linear regression using least square method [5]

$$y = \beta_0 + \beta_1 x$$

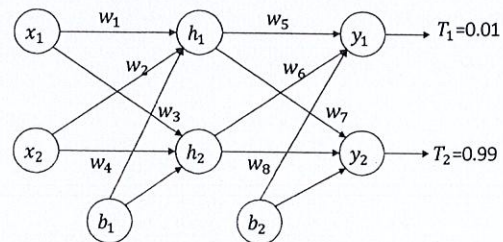
x	1	2	3	4	5
y	2	4	5	4	5

- (b) What is the use of logistic regression in Deep learning in? How will you estimate the output probability using logistic regression? [5]

3. Using neural backpropagation Calculate:

- i. $H_1, H_2, OutH_1, OutH_2$
- ii. $Y_1, Y_2, OutY_1, OutY_2$
- iii. E_{total}
- iv. Updated weights w_5 and w_6

Given:



$w_1 = 0.15$	$w_5 = 0.40$	$x_1 = 0.05$	$\eta = 0.01$ Learning Rate
$w_2 = 0.20$	$w_6 = 0.45$	$x_2 = 0.10$	
$w_3 = 0.25$	$w_7 = 0.50$	$b_1 = 0.35$	
$w_4 = 0.30$	$w_8 = 0.55$	$b_2 = 0.60$	

[10]