

Program: BE Electronics& Telecommunication Engineering

Curriculum Scheme: Revised 2016

Examination: Fourth Year Semester VII

Course Code: ECCDLO7031and Course Name: Neural Networks and Fuzzy Logic

Time: 1hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	What is the form of Fuzzy logic?
Option A:	Two-valued logic
Option B:	Crisp set logic
Option C:	Many valued logic
Option D:	Binary set logic
Q2.	If the weight matrix stores the given patterns, then the network becomes?
Option A:	autoassociative memory
Option B:	heteroassociative memory
Option C:	multidirectional associative memory
Option D:	temporal associative memory
Q3.	Why does change in temperature doesn't affect stochastic update?
Option A:	shape landscape depends on the network and its weights which varies accordingly and compensates the effect
Option B:	shape landscape depends on the network and its weights which is fixed
Option C:	shape landscape depends on the network, its weights and the output function which varies accordingly and compensates the effect
Option D:	shape landscape depends on the network, its weights and the output function which is fixed
Q4.	What is plasticity in neural networks?
Option A:	input pattern keeps on changing
Option B:	input pattern has become static
Option C:	output pattern keeps on changing
Option D:	output is static
Q5.	Correlation learning law is special case of?
Option A:	Hebb learning law
Option B:	Perceptron learning law
Option C:	Delta learning law
Option D:	LMS learning law

Q6.	Fuzzy logic is :
Option A:	Used to respond to questions in a humanlike way
Option B:	A new programming language used to program animation
Option C:	The result of fuzzy thinking
Option D:	A term that indicates logical values greater than one
Q7.	What's the main point of difference between human & machine intelligence?
Option A:	human perceive everything as a pattern while machine perceive it merely as data
Option B:	human have emotions
Option C:	human have more IQ & intellect
Option D:	human have sense organs
Q8.	Which of the following is not the promise of artificial neural network?
Option A:	It can explain result
Option B:	It can survive the failure of some nodes
Option C:	It has inherent parallelism
Option D:	It can handle noise
Q9.	Heteroassociative memory is also known as?
Option A:	unidirectional memory
Option B:	bidirectional memory
Option C:	multidirectional associative memory
Option D:	temporal associative memory
Q10.	Which of the following learning laws belongs to same category of learning?
Option A:	hebbian, perceptron
Option B:	perceptron, delta
Option C:	hebbian, widrow-hoff
Option D:	instar, outstar
Q11.	A 4-input neuron has weights 1, 2, 3 and 4. The transfer function is linear with the constant of proportionality being equal to 2. The inputs are 4, 10, 5 and 20 respectively. What will be the output?
Option A:	238
Option B:	76
Option C:	119
Option D:	123
Q12.	A robot is a _____
Option A:	Computer-controlled machine that mimics the motor activities of living things
Option B:	Machine that thinks like a human
Option C:	Machine that replaces a human by performing complex mental processing tasks
Option D:	Type of virtual reality device that takes the place of humans in adventures
Q13.	Which of the following equation represent perceptron learning law?

Option A:	$\Delta w_{ij} = \mu(s_i) a_j$
Option B:	$\Delta w_{ij} = \mu(b_i - s_i) a_j$
Option C:	$\Delta w_{ij} = \mu(b_i - s_i) a_j \dot{A}(x_i)$, where $\dot{A}(x_i)$ is derivative of x_i
Option D:	$\Delta w_{ij} = \mu(b_i - (w_i a)) a_j$
Q14.	What is the objective of BAM?
Option A:	to store pattern pairs
Option B:	to recall pattern pairs
Option C:	to store a set of pattern pairs and they can be recalled by giving either of pattern as input
Option D:	fault tolerance
Q15.	In Hopfield network with symmetric weights, energy at each state may?
Option A:	increase
Option B:	decrease
Option C:	decrease or remain same
Option D:	decrease or increase
Q16.	What is an auto-associative network?
Option A:	a neural network that contains no loops
Option B:	a neural network that contains feedback
Option C:	a neural network that has only one loop
Option D:	a single layer feed-forward neural network with pre-processing
Q17.	In Hebbian learning initial weights are set?
Option A:	random
Option B:	near to zero
Option C:	near to target value
Option D:	near to target value
Q18.	Why is the XOR problem exceptionally interesting to neural network researchers?
Option A:	Because it can be expressed in a way that allows you to use a neural network
Option B:	Because it is complex binary operation that cannot be solved using neural networks
Option C:	Because it can be solved by a single layer perceptron
Option D:	Because it is the simplest linearly inseparable problem that exists
Q19.	For analysis of storage capacity what are the conditions imposed on Hopfield model?
Option A:	symmetry of weights
Option B:	asynchronous update
Option C:	symmetry of weights and asynchronous update
Option D:	none of the mentioned
Q20.	Graphic programs widely used in the graphic arts profession include _____

Option A:	Desktop publishing programs, image editors and illustration programs
Option B:	Artificial intelligence, virtual reality, and illustration programs
Option C:	Mega media programs, image editors, and desktop publishing programs
Option D:	Virtual reality, desktop publishing programs, and illustration programs
Q21.	Having multiple perceptrons can actually solve the XOR problem satisfactorily: this is because each perceptron can partition off a linear part of the space itself, and they can then combine their results.
Option A:	True – this works always, and these multiple perceptrons learn to classify even complex problems
Option B:	False – perceptrons are mathematically incapable of solving linearly inseparable functions, no matter what you do
Option C:	True – perceptrons can do this but are unable to learn to do it – they have to be explicitly hand-coded
Option D:	False – just having a single perceptron is enough
Q22.	A _____ is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility.
Option A:	Decision tree
Option B:	Graphs
Option C:	Trees
Option D:	Neural Networks
Q23.	If connections are not symmetric then basins of attraction may correspond to?
Option A:	oscillatory regions
Option B:	stable regions
Option C:	chaotic regions
Option D:	oscillatory or chaotic regions
Q24.	What is the critical threshold voltage value at which neuron get fired?
Option A:	30mv
Option B:	20mv
Option C:	25mv
Option D:	10mv
Q25.	The instar learning law can be represented by equation?
Option A:	$\Delta w_{ij} = \mu(s_i) a_j$
Option B:	$\Delta w_{ij} = \mu(b_i - s_i) a_j$
Option C:	$\Delta w_{ij} = \mu(b_i - s_i) a_j \dot{A}(x_i)$, where $\dot{A}(x_i)$ is derivative of $A(x_i)$
Option D:	$\Delta w_k = \mu(a - w_k)$, unit k with maximum output is identified