University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Computer Engineering
Curriculum Scheme: Rev2012
Examination: Final Year Semester VII
Course Code: CPE7025 and Course Name: Soft Computing

Time: 1 hour   Max. Marks: 50

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

Q1.	Core of soft Computing is
Option A:	Neural Science and Genetic Science
Option B:	Fuzzy Networks and Artificial Intelligence
Option C:	Artificial Intelligence and Neural Science
Option D:	Fuzzy Computing, Neural Computing, Genetic Algorithms
Q2.	What is Neuro software?
Option A:	A software used to analyze neurons
Option B:	It is powerful and easy neural network
Option C:	Designed to aid experts in real world
Option D:	It is software used by Neurosurgeon
Q3.	The amount of output of one unit received by another unit depends on what?
Option A:	Output unit
Option B:	Input unit
Option C:	Activation value
Option D:	Weight
Q4.	What is the formula for bias update
Option A:	b(new)=b(old)+0
Option B:	b(new)=b(old)+xy
Option C:	b(new)=b(old)+y
Option D:	b(new)=b(old)+x
Q5.	Positive sign of weight indicates?
Option A:	Excitatory input
Option B:	Inhibitory input
Option C:	can be either excitatory or inhibitory as such
Option D:	Possible weight
Q6.	Signal transmission at synapse is a
Option A:	Physical process
Option B:	Chemical Procees
Option C:	Biological process
Option D:	Activation
Q7.	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
Q8.	The network that involves backward links from output to the input and hidden layers is called as
Option A:	Self organizing maps
Option B:	Perceptrons
Option C:	Recurrent neural network
Option D:	Multi layered perceptron
Q9.	What is the objective of perceptron learning
Option A:	class identification
Option B:	weight adjustment
Option C:	adjust weight along with class identification
Option D:	Bias adjustment
Q10.	The SVM's are less effective when
Option A:	The data is linearly separable
Option B:	The data is clean and ready to use
Option C:	The data is uncleared
Option D:	The data is noisy and contains overlapping points
Q11.	Union Operation of two fuzzy set os given by
Option A:	$\mu A(x) \wedge \mu B(x)$
Option B:	$\mu A(x) \vee \mu B(x)$
Option C:	$\mu A(x) < \mu B(x)$
Option D:	$\mu A(x) > \mu B(x)$
Q12.	Intersection Operation of two fuzzy set is given by_____ operation
Option A:	max
Option B:	abs
Option C:	min
Option D:	average
Q13.	Bounded sum of two fuzzy sets A and B is given by
Option A:	$max(0, \mu A(x) + \mu B(x))$
Option B:	$min(1, \mu A(x) + \mu B(x))$
Option C:	$min(0, \mu A(x) + \mu B(x))$
Option D:	$max(1, \mu A(x) + \mu B(x))$
Q14.	Let fuzzy set A is {(x1,0.2), (x2,0.8),(x3,1),(x4,0.6) then its support is
Option A:	{x1,x2,x3,x4)
Option B:	{x3)
Option C:	null set
Option D:	{x3,x4}
Q15.	Fuzzy logic is useful for both commercial and practical purposes
Option A:	True, False
Option B:	True, True

Option C:	False, False
Option D:	False, True
Q16.	following not example of fuzzy controller
Option A:	Washing machine
Option B:	Air conditioner
Option C:	Train
Option D:	Mixer
Q17.	The "Turing Machine" showed that you could use a/an _____ system to program any algorithmic task.
Option A:	binary
Option B:	electro-chemical
Option C:	recursive
Option D:	semantic
Q18.	Which of the following is incorrect Expert Systems Limitations?
Option A:	Limitations of the technology
Option B:	Difficult knowledge acquisition
Option C:	Easy to maintain
Option D:	High development costs
Q19.	Which of the following is incorrect application of Expert System?
Option A:	Design Domain
Option B:	Monitoring Systems
Option C:	Knowledge Domain
Option D:	Systems domain
Q20.	_____ is the process of finding the conditions that gives the maximum or minimum value of a function
Option A:	mutation
Option B:	Optimization
Option C:	Selection
Option D:	Crossover
Q21.	Which of the following is not example of Derivative based optimization techniques
Option A:	Descent method
Option B:	Steepest descent method
Option C:	Simulated annealing
Option D:	Newton's method
Q22.	Genetic Algorithm are a part of
Option A:	Evolutionary Computing
Option B:	inspired by Darwin's theory about evolution - "survival of the fittest"
Option C:	are adaptive heuristic search algorithm based on the evolutionary ideas of natural selection and genetics
Option D:	All of the above

Q23.	_____ to apply random changes to individual parents in order to form children.
Option A:	Mutation
Option B:	selection
Option C:	cross over
Option D:	rejection
Q24.	Which of the following is not Bit-wise Operator
Option A:	AND
Option B:	OR
Option C:	EX-OR
Option D:	NAND
Q25.	Which of the following is NOT required for using Newton's method for optimization?
Option A:	A good initial estimate that is reasonably close to the optimal.
Option B:	The lower bound for search region.
Option C:	The function to be optimized.
Option D:	Twice differentiable optimization function.

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	B
Q3.	D
Q4	C
Q5	A
Q6	B
Q7	A
Q8.	C
Q9.	C
Q10.	D
Q11.	B
Q12.	C
Q13.	B
Q14.	A
Q15.	B
Q16.	D
Q17.	A
Q18.	C
Q19.	D
Q20.	B
Q21.	C
Q22.	D
Q23.	A
Q24.	D
Q25.	B