University of Mumbai
Online Examination 2020

Program: BE Computer Engineering
Curriculum Scheme: Revised 2012
Examination: Final Year Semester VII
Course Code: CPE7025 and Course Name:Soft Computing

Time: 1hour   Max. Marks: 50

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

Q1.	Constituents of soft computing are
Option A:	Fuzzy Computing, Neural Computing, Genetic Algorithms
Option B:	Fuzzy Networks and Artificial Intelligence
Option C:	Artificial Intelligence and Neural Science
Option D:	Neural Science and Genetic Science

Q2.	What are the 2 types of learning
Option A:	Improvised and unimprovised
Option B:	Supervised and Unsupervised
Option C:	Layered and unlayered
Option D:	None of the above

Q3.	Supervised Learning is
Option A:	learning with the help of examples
Option B:	learning without teacher
Option C:	learning with the help of teacher
Option D:	learning with computers as supervisor

Q4.	Conventional Artificial Intelligence is different from soft computing in the sense
Option A:	Conventional Artificial Intelligence deal with prdicate logic where as soft computing
Option B:	Conventional Artificial Intelligence methods are limited by symbols where as soft cor
Option C:	Both above
Option D:	None of the above

Q5.	What are the issues on which biological networks proves to be superior than AI netwo
Option A:	Robustness & fault tolerance
Option B:	Flexibility
Option C:	Collective computation
Option D:	All of the mentioned

Q6.	What is purpose of Axon?
Option A:	Receptors
Option B:	Transmitter
Option C:	Transmission
Option D:	None of the mentioned

Q7.	The process of adjusting the weight is known as?
Option A:	Activation
Option B:	Synchronisation
Option C:	Llearning
Option D:	None of the mentioned

Q8.	Positive sign of weight indicates?
Option A:	Excitatory input
Option B:	Inhibitory input
Option C:	Can be either excitatory or inhibitory
Option D:	None of the mentioned

Q9.	What is reinforcement learning?
Option A:	Learning is based on evaluative signal
Option B:	Learning is based on desired output for an input
Option C:	Learning is based on both desired output & evaluative signal
Option D:	None of the mentioned

Q10.	Truth value of traditional set theory --------------- and that of Fuzzy set is ------------
Option A:	Either 0 or 1 and between 0 and 1
Option B:	Between 0 and 1 and between 0 and 1
Option C:	Between 0 or 1 and either 0 or 1
Option D:	Either 0 or 1 and either 0 and 1

Q11.	Room temperature is hot hete Hot(use of Linguistic variable is used) can be represent
Option A:	Crisp set
Option B:	Fuzzy Set
Option C:	Binary set
Option D:	None of the above

Q12.	Which of the following is NOT required for using Newton's method for optimization
Option A:	The lower bound for the search region
Option B:	Twice differentiable optimization function
Option C:	The function to be optimized
Option D:	A good initial estimate that is reasonably close to the optimal

Q13.	A fuzzy set whose membership function has at least one element x in the universe wh
Option A:	Sub normal fuzzy sets
Option B:	Normal fuzzy set
Option C:	Convex fuzzy set
Option D:	Concave fuzzy set

Q14.	GAs are useful and efficient when
Option A:	the search space is large, complex or poorly understood
Option B:	Domain knowledge is scarce or expert knoWledge is difficult to encode to narrow the
Option C:	No mathematical analysis is available;

Option D:	All of the above

Q15.	Which is/are layers of the Neuro Fuzzy Hybrid systems
Option A:	The first layer represents input variables,
Option B:	the middle (hidden) layer represents fuzzy rules
Option C:	and the third layer represents output variables.
Option D:	All of the above

Q16.	How many layers are there in ANFIS Architecture
Option A:	1
Option B:	3
Option C:	4
Option D:	5

Q17.	Fuzzy – Genetic Hybrid system is a
Option A:	Fuzzy logic in parallel with the Genetic algorithm
Option B:	Fuzzy logic controlled Genetic algorithm
Option C:	Genetic algorithm controlled Fuzzy logic
Option D:	None of the above

Q18.	Which of the following is not a hybrid system?
Option A:	Embedded hybrid system
Option B:	Sequential hybrid system
Option C:	Auxiliary hybrid system
Option D:	Parallel hybrid system

Q19.	In which learning method in the following, those neurons which responds strongly to
Option A:	Competitive learning
Option B:	Stochastic Learning
Option C:	Hebbian Leaning
Option D:	Gradient Descent Learning

Q20.	Application of Neural Network includes
Option A:	Pattern Recognition
Option B:	Classification
Option C:	Clustering
Option D:	All of the above

Q21.	Which GA operation is computationally most expensive
Option A:	Roulette-wheel selection
Option B:	Rank based selection
Option C:	Tournament selection
Option D:	All the above

Q22.	Which of the following is not a valid chromosome in Order GA?
Option A:	1. 3, 5, 7, 2, 4, 6, 8

Option B:	A, B, C, D, E, F, G, H
Option C:	1, 0, 0, 1, 1, 0, 0, 1
Option D:	14.6, -23.4, 177.23

Q23.	Suppose, a fuzzy set Young is defined as follows Young=(10,0.5),(20,0.8),(30,0.8),(4
Option A:	25
Option B:	20
Option C:	35
Option D:	50

Q24.	Which of the following is not a centroid method?
Option A:	Centre of gravity method (CoG)
Option B:	Centre of sum method (CoS)
Option C:	Centre of area method (CoA)
Option D:	Centre of Mass (CoM)

Q25.	Given that if "x is Sweet" with T(x)=0.8 and yis Sweet with T(y)=0.6 the fuzy truth va
Option A:	0.2
Option B:	0.4
Option C:	0.6
Option D:	0.8