

Program: Information Technology  
Curriculum Scheme: Revised 2012  
Examination: Fourth Year Semester VIII  
Course Code: BEITC8045 and Course Name: Soft Computing

Time: 1 hour Max.  
Marks: 50

Max. Marks: 50

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

Question NO.	Statement	option1	option2	option3	option4
1	The arrangement of neurons is a case of logic function was stated by_____in the year 1943	Hebb	Kohenen	Fukushima	McCulloch and Pitts
2	What will be the weights of a neural network with only one M-P neuron to implement OR logic operation	1,1	1,0	0,1	0,0
3	Which of the following is not an example of unsupervised learning	Speech recognition	Recommender system	Big data visualization	meaningfull compression
4	A single layer neural network with three inputs( $x_1=0.1, x_2=0.1, x_3=.1$ ) with weights $-0.1, 0.1$ and $-0.1$ respectively. Calculate the net input to the output neuron.	0.01	-0.01	0.001	-0.001
5	Error correction learning is a type of_____	perceptron	hebbian	delta	backpropagation algorithm
6	which of the following statement is false for Hopfield network	can use binary or bipolar	exponential activation function	only binary	only bipolar
7	Does backpropagaion learning is based on gradient descent along error surface?	Yes	No	Cannot be said	it depends on gradient descent
8	The bidirectional associative memory is similar in principle to?	Hebb model	Boltzmann model	Papert model	Hopfield model
9	Which Fuzzy set has Height less than 1?	Concave fuzzy set	Subnormal Fuzzy Set	Conext Fuzzy Set	Normal Fuzzy Set

10	For fuzzy set A and B both having elements a,b,c,d, the membership values in the fuzzy set A is given as {(1,a), (0.75,b), (0.3,c), (0.15,d)} and fuzzy set B is given as {(1,a), (0.6,b), (0.2,c), (0.1,d)}. Find A intersection B.	{{(1,a), (0.6,b), (0.2,c), (0.1,d)}}	{{(0,a), (0.25,b), (0.7,c), (0.85,d)}}	{{(1,a), (0.4,b), (0.8,c), (0.9,d)}}	{{(1,a), (0.75,b), (0.3,c), (0.15,d)}}
11	Choose the correct definition for strong Lambda - cut set.	Any set A is called as weak lambda-cut set if	Any set A is called as weak lambda-cut set if it consists of all the	Any set A is called as weak lambda-cut set if it consists of all the	Any set A is called as weak lambda-cut set if it consists of
12	Which method of membership value assignment is completely based on human intelligence and understanding capabilities?	Intuition	Inference	Inductive reasoning	Angular Fuzzy set
13	The output of a Fuzzy inference system is always	crisp set	Fuzzy set	Null set	Universe
14	In Fuzzy logic control systems,the decision making logic is used for	fuzzification	drawing inference	selection of input variables	selection of membership functions
15	The first step in fuzzy logic machine is	Fuzzification	Rule evaluation	Defuzzification	Complement
16	Can a hybrid system deal with no prior knowledge of the rule consequent?	No, every type of hybrid system requires exact data	Yes, every type of hybrid system can work with partial data	Yes, it is possible if hybrid system is Neuro-Fuzzy	No, it is not possible in case of hybrid system is Neuro-Fuzzy
17	in ANFIS, which of the layer finds the antecedents of each fuzzy rule, using product operator?	input layer	fuzzification layer	Rule layer	defuzzification layer
18	The output membership value of Mamdani fuzzy model is?	Linear	Non-linear	Variable	Fuzzy set
19	A hybrid system where learning rate, hidden layers, tolerance level, etc is optimized by other system?	Neuro-Fuzzy	Genetic-Fuzzy	Neuro-Genetic	Only genetic system
20	Cooperative Genetic-Fuzzy hybrid system is?	Fuzzy logic in parallel with genetic	Fuzzy logic controlled genetic algorithm	Genetic algorithm controlled fuzzy logic	Any order of combination of fuzzy and genetic
21	Search space in Genetic algorithm contains-	Correct solutions	Expected solutions	Feasible solutions	Possible solutions
22	Which genetic operator swaps the strings of selected chromosomes in Genetic algorithm?	Selection	Crossover	Mutation	Encoding
23	Which selection method in Genetic algorithm selects a parent randomly from the population?	Rank selection	Random selection	Roulette wheel selection	Tournament selection
24	If mutation probability is 100% then,	Nothing is changed	Half chromosome is changed	Part of chromosome is changed	Whole chromosome is changed
25	The function that calculates the fitness of an individual in	Crossover	Mutation	Fitness Function	Selection