Soft Computing & Optimization Algorithms [Multiple Choice Question] **UNIT No-03**

Name of Content: Fuzzy Systems- Fuzzy Controller

01	Fuzzy logic is :	
	Option A	Used to respond to questions in a human like 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
	Correct Answer	**A**
02	What are the following sequence of steps taken in designing a fuzzy logic machine?	
	Option A	Rule evaluation->Fuzzification->Defuzzification
	Option B	Fuzzification->Rule evaluation->Defuzzification
	Option C	Fuzzy Sets->Defuzzification->Rule evaluation
	Option D	Defuzzification->Rule evaluation->Fuzzification
	Correct Answer	**B**
03	Fuzzy logic is a form of	
	Option A	Two-valued logic
	Option B	Crisp set logic
	Option C	Many-valued logic
	Option D	Binary set logic
	Correct Answer	**C**
04	The height h(A) of a fuzzy set A is defined as h(A) = sup A(x)	
	Option A	h(A) = 0
	Option B	h(A) <0
	Option C	h(A)=1
	Option D	h(A)<1
	Correct Answer	**C**
05	Assumptions in Fuzzy Logic Control (FLC) Design	
	Option A	Existence of a knowledge body
	Option B	Range of precision
	Option C	The plant is observable and controllable
	Option D	All of the above
	Correct Answer	**D**

Name of Content: Fuzzy Rule Base & Approximate Reasoning

01	Fuzzy logic uses	
	Option A	Global variables
	Option B	Linguistic variables
	Option C	Local variables
	Option D	Approximate variables
	Correct Answer	**B**
02	_____ as an operator acts on fuzzy set representing meaning of its operand	
	Option A	Defuzzification
	Option B	Truth table
	Option C	Linguistic hedges
	Option D	Propositions
	Correct Answer	**C**
03	The major components of the FLC	
	Option A	Fuzzifier & Defuzzifier
	Option B	Fuzzy Rule Base & Knowledge Base
	Option C	Inference Engine
	Option D	All of the above
	Correct Answer	**D**
04	Which of the following not an Advantages of Fuzzy Logic Control	
	Option A	Cheaper
	Option B	Robust
	Option C	Reliability
	Option D	Expensive
	Correct Answer	**D**
05	Examples of Fuzzy quantifiers are words like	
	Option A	Most
	Option B	Many
	Option C	Few
	Option D	All of the above
	Correct Answer	**D**
06	Fuzzy truth qualification claims the degree of truth of fuzzy proposition	
	Option A	True
	Option B	False
	Correct Answer	**A**

07	Propositions in fuzzy logic involves	
	Option A	Fuzzy predicate
	Option B	Fuzzy Quantifier
	Option C	Fuzzy Qualifier
	Option D	All of the above
	Correct Answer	**D**
08	Formation of Rules: I: Assignment statement; II: Conditional statement; III: Unconditional statement	
	Option A	Only I
	Option B	Only I & II
	Option C	Only I, II & III
	Option D	Only II & III
	Correct Answer	**C**
09	Methods used for decomposition of rules	
	Option A	Multiple conjunctive antecedents
	Option B	Multiple disjunctive antecedents
	Option C	Conditional statement
	Option D	All of the above
	Correct Answer	**D**
10	Multiple conjunctive antecedents based on	
	Option A	Fuzzy union operation
	Option B	Fuzzy intersection operation
	Option C	Fuzzy condition operation
	Option D	Fuzzy difference operation
	Correct Answer	**B**
11	Two methods of Aggregation of fuzzy rules	
	Option A	Conjunctive system of rules
	Option B	Disjunctive system of rules
	Option C	Both a & b
	Option D	Neither a nor b
	Correct Answer	**C**
12	In disjunctive system of rules, output determined by performing fuzzy union of all individual rule consequents	
	Option A	True
	Option B	False
	Correct Answer	**A**

Name of Content: Fuzzy Reasoning and Fuzzy Inference system

01	In this form of reasoning, the antecedent part of the rule does not contain any fuzzy quantifiers and fuzzy probabilities	
	Option A	Qualitative Reasoning
	Option B	Categorial Reasoning
	Option C	Syllogistic Reasoning
	Option D	Dispositional Reasoning
	Correct Answer	**B**
02	A Fuzzy syllogism can be expressed as x=s_1 A's are B's & y= s_2 C's are D's	
	Option A	z= s_2 C's are D's
	Option B	z= s_2 A's are B's
	Option C	z= s_2 C's are D's
	Option D	z= s_3 E's are F's
	Correct Answer	**D**
03	The Conjunction rule is	
	Option A	~x is ~A, ~x is ~B =>~x is ~A*~B
	Option B	~x is ~A, ~x is ~B =>~x is ~A-~B
	Option C	~x is ~A, ~x is ~B =>~x is ~A*∪~B
	Option D	~x is ~A, ~x is ~B =>~x is ~A∩~B
	Correct Answer	**D**
04	The negative rule of inference is	
	Option A	NOT (~x is ~A) => ~x is ~A
	Option B	NOT (~x is ~A) => ~ is ~A
	Option C	NOT (~x is ~A) => ~x is A
	Option D	NOT (~x is ~A) => x is A
	Correct Answer	**A**
05	In this mode of reasoning, the antecedents & consequents have fuzzy linguistiz variables	
	Option A	Qualitative Reasoning
	Option B	Categorial Reasoning
	Option C	Syllogistic Reasoning
	Option D	Dispositional Reasoning
	Correct Answer	**A**

07	How many types are available in machine learning?	
	Option A	1
	Option B	2
	Option C	3
	Option D	4
	Correct Answer	**C**
08	How the decision tree reaches its decision?	
	Option A	Single test
	Option B	Two test
	Option C	Sequence of test
	Option D	No test
	Correct Answer	**C**
09	What Is Fuzzy Inference Systems?	
	Option A	The process of formulating the mapping from a given input to an output using fuzzy logic
	Option B	Changing the output value to match the input value to give it an equal balance
	Option C	Having a larger output than the input
	Option D	Having a smaller output than the input
	Correct Answer	**A**
10	Where Has Fuzzy Inference Systems Been Implemented?	
	Option A	Wireless services, heat control and printers
	Option B	Restrict power usage, telephone lines and sort data
	Option C	Simulink, boiler and CD recording
	Option D	Automatic control, decision analysis and data classification
	Correct Answer	**D**
11	What Is Another Name For Fuzzy Inference Systems?	
	Option A	Fuzzy Expert System
	Option B	Fuzzy Modelling
	Option C	Fuzzy Logic Controller
	Option D	All of the above
	Correct Answer	**D**
12	The Equation For Probabilistic: Probor (a,b) = a+b - ab	
	Option A	True
	Option B	False
	Correct Answer	**A**