exam 2013

السؤال 6
feature selection
For fitness u have 2 variable
Size of aircraft (max)
Capacity of bombs and missiles (min)
Since genetic algorithm is working on maximizing so u will turn both variable into maximization e.g. f(x) = size + (1/capacity)
So that you will maximize the whole function

السؤال السابع
genatic programming

You will just explain for him what are the operations u will use and operands as a design for the tree nodes
e.g. Binary operations are OR , AND , XOR , NAND , etc..
Unary operations NOT , one's complement , etc.
Operands since it is adder so it takes only 2 input : e.g. A, B
Then u will explain the cross over operation and mutation based on the 3 type defined in the representation
And so on

السؤال الثامن

I think , You will design simple GA it can be floating point representation were each chromosome represents a type of mineral and the fitness function is to compute the best combination of amounts of different types of minerals where it is safe for humans

السؤال التاسع
AIS

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Exam 2012

السؤال 6

The chromosome will hold the 3 values .. it is not feature selection .. you want to choose the values for the 3 parameters that when evaluated using the tool that evaluates the molecule energy so that it gets maximum value
The 3 parameters represents the structure of the molecule so u want to choose the optimal model for molecule by choosing values for a , f and alpha

السؤال السابع

It is feature selection problem ..
Take care any problem solved using GA can be solved using AIS and can be solved using any optimization algorithm .. They are just algorithms that uses different techniques for optimization .. So don't write solution will be using AIS onl .. u must define ur structure and affinity and so on

السؤال الثامن

It will be using genetic programming
Since u want to design XOR
XOR is binary operation so it takes 2 parameters
Operations applied is only NAND
So u will build trees that takes 2 inputs and operation is only NAND and apply xover and mutation

السؤال التاسع

U will design fuzzy rules as explain exactly in lecture using variable length chromosomes and holding the rules applied .. check lectures

السؤال العاشر

The given parameters are the values in the floating point chromosome
Chromosome will hold pressure , time , angle , force , etc …
Fitness function is the accuracy of hitting the target