

Question

- a) For a genetic algorithm, we are given the following parents, P_1 and P_2 , and the template T

P₁	A	B	C	D	E	F	G	H	I	J
P₂	B	D	J	H	C	E	I	A	G	F
T	1	0	1	1	0	0	0	1	0	1

Assume that C_n , are crossover points where $C_n = 0$ means that the crossover point is at the extreme left of the parent.

Show how the following crossover operators work

- i) One point crossover (using $C_1 = 2$) (2)
- ii) Two point crossover (using $C_2 = 3$ and $C_3 = 6$) (2)
- iii) Uniform crossover (3)
- iv) Partially Matched Crossover (using $C_2 = 2$ and $C_3 = 4$) (4)