Student Enrollment No: _____

GANPAT UNIVERSITY
U. V. PATEL COLLEGE OF ENGINEERING
B. TECH (COMPUTER ENGINEERING/INFORMATION TECHNOLOGY) SEM – VI
SECOND INTERNAL EXAMINATION – APRIL 2021
2CEIT602: ARTIFICIAL INTELLIGENCE

Time:1 Hour **Total Marks: 20**

Instructions:
1. Figures to the right indicate full marks.
2. Be precise and to the point in your answer.

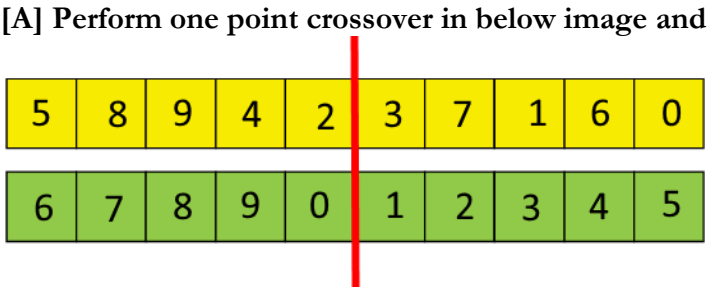
Q.1 Apply perceptron learning algorithms to classify the given dataset correctly. Train the dataset up to Epoch2. **[5]**

X1	X2	Y
1	1	1
-1	1	-1
1	-1	-1
-1	-1	1

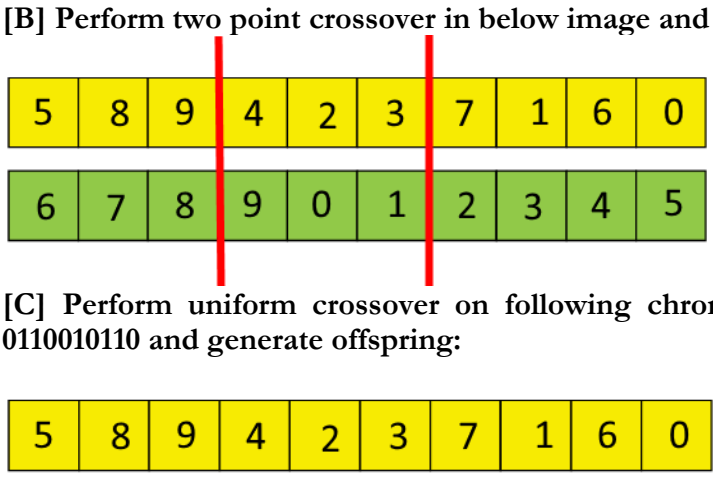
Apply the activation function as if Yin >0; Y=1, Yin =0; Y=0, Yin <0; Y=-1

Q.2 Discuss the similarities of artificial neural network and biological neural network components with diagrams. **[5]**

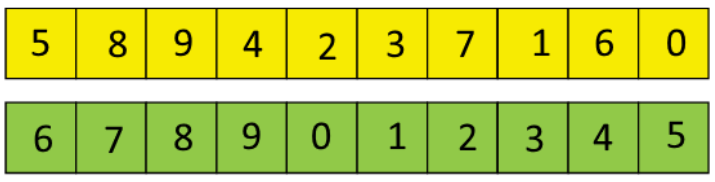
Q.3 **[A] Perform one point crossover in below image and generate offspring:** **[5]**



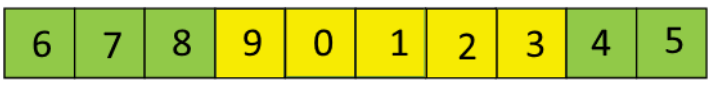
[B] Perform two point crossover in below image and generate offspring:



[C] Perform uniform crossover on following chromosomes with mask 0110010110 and generate offspring:



[D] Perform Inversion Mutation on following chromosomes:



Q.4 Consider an example of "a child learning to walk" for Reinforcement Learning and write down steps a child will take while learning to walk. Write down simplified descriptions of above steps according to a reinforcement learning problem. Draw the figure of this example according to the Agent and Environment of Reinforcement Learning. Write down Reward, Agent, Environment, Actions, States of above example. **[5]**

END OF PAPER