K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)
Semester: **August – November 2020**
In-Semester Examination

Class: TY B. Tech
Branch: Computer **Semester : V**
Full name of the course: Soft Computing **Course Code:2UCE504**

Duration: 1hr.15 min (attempting questions) +15 min (uploading) Max. Marks: 30

Q. No	Questions	Marks
Q1	MCQ **1.1** The network that has no feedback loop is a)Neural network b)Recurrent Network c)Multilayer Network d)Feed forward network **1.2** A Systematic method for training multilayer artificial neural network is a)Back propagation b)Forward propagation c)Speed propagation d)Multilayer propagation **1.3** The learning follows "Winner takes all" strategy is a)Stochastic learning b)Competitive learning c)Hebbian learning d)BackPropagation learning **1.4** If the associated pattern pairs (x,y) are different and if the model recalls a y given an x or vice versa, then it is termed as a) Auto associative memory b) Hetero associative memory c) neuro associative memory d) Biderctional associative memory **1.5** The network means that a pattern should not oscillate among different cluster units at different stages of training is a)Stability	10 marks (1 MARK EACH)

	b)Mobility c)Versitality d)Placticity **1.6** In supervised learning a) Classes are not predefined b)classes are predefined c) classification is not done d)Classes are not required **1.7** Core of soft Computing is a) Fuzzy Computing, Neural Computing, Genetic Algorithms b) Fuzzy Networks and Artificial Intelligence c) Artificial Intelligence and Neural Science d) Neural Science and Genetic Science **1.8** A 4-input neuron has weights 1, 2, 3 and 4. The transfer function is linear with the constant of proportionality being equal to 2. The inputs are 4, 10, 5 and 20 respectively. What will be the output? a)238 b)76 c)119 d)123 **1.9** What is stability plasticity dilemma ? a) system can neither be stable nor plastic b) static inputs & categorization can't be handled c) dynamic inputs & categorization can't be handled d) static **1.10** Example of a unsupervised feature map? a)text recognition b)voice recognition c)image recognition d) face recognition	
Q2	Use perceptron learning rule to train the network . c is learning constant = 0.1,desired response for X1,X2 and X3 are d1= -1, d2= -1,d3= 1. All inputs are column vectors. **X1 = [1,-2,0,1]** **X2= [0,1.5,-0.5,-1]** **X3= [-1,1,0.5,-1]** **W1= [1,-1,0,0.5]** Calculate weight after one complete cycle.	10 marks

Q3	**3.1** Design two input OR logic using McCulloch Pitts Neuron Model. **3.2** Explain with example linearly and nonlinearly separable pattern classification **OR** What is KOHENEN self organizing map? Draw and explain architecture of it.	5 marks 5 marks 10 marks