KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

COIMBATORE – 641 029

M.Sc. MATHEMATICS

Curriculum & Scheme of Examination under CBCS

(APPLICABLE TO STUDENTS ADMITTED FROM THE ACADEMIC YEAR 2017-2018 & ONWARDS)

Semester	Subject Code/ Question Paper Code	Part		Title of the Paper	Instruction Hours	Examination Marks			Duration of Exam. Hrs	Credits
						CIA	ESE	Total		
I	15PMA101	I	**CP 1**	Algebra	7	25	75	100	3	5
	15PMA102		**CP 2**	Real Analysis	6	25	75	100	3	5
	15PMA103		**CP 3**	Ordinary Differential Equations	7	25	75	100	3	5
	15PMA104		**CP 4**	Numerical Methods	6	25	75	100	3	5
	17PMA1N1		**NMEP 1**	Fuzzy Logic and Neural Networks	4	25	75	100	3	4
II	15PMA205	I	**CP 5**	Complex Analysis	7	25	75	100	3	5
	16PMA206		**CP 6**	Partial Differential Equations	6	25	75	100	3	5
	15PMA207		**CP 7**	Mechanics	6	25	75	100	3	5
	17PMA208		**CP 8**	Programming in C – Theory	5	25	75	100	3	4
	17PMA2CL		**CPr 1**	Programming in C – Practical	2	40	60	100	3	1
	15PMA2N2		**NMEP 2**	Measure and Integration	4	25	75	100	3	4
	15PMA309	I	**CP 9**	Topology	7	25	75	100	3	5
	15PMA310		**CP 10**	Control Theory	7	25	75	100	3	5

III	15PMA311		**CP 11**	Mathematical Statistics	7	25	75	100	3	5
	15PMA3E1		**MEP 1**	Major Elective Paper	7	25	75	100	3	5
			PRO	Project	2	-	-	-	-	-
IV	15PMA412	I	**CP 12**	Mathematical Methods	7	25	75	100	3	5
	16PMA413		**CP 13**	Functional Analysis	7	25	75	100	3	5
	15PMA414		**CP 14**	Object Oriented Programming with C++ - Theory	5	25	75	100	3	3
	15PMA4CM		**C Pr 2**	Object Oriented Programming with C++ - Practical	2	40	60	100	3	2
	15PMA4E2		**MEP 2**	Major Elective Paper	7	25	75	100	3	5
	15PMA4Z1		**PRO**	Project	2	40	160 **	200	-	2
					Total			2200		**90**

FUZZY LOGIC AND NEURAL NETWORKS

Objectives:

To enable the students to understand the concepts of fuzzy sets, fuzzy logic and neural networks,which are very much useful to higher studies in compuer networks.

UNIT I

Fuzzy Sets: Crisp sets – Fuzzy sets: Basic Types, Basic concepts – Additional properties of α-cuts – Representations of fuzzy sets – Extension prinicple for fuzzy sets

UNIT II

Operations On Fuzzy Sets: Types of operations – fuzzy complements – fuzzy intersections : t-Norms – Fuzzy unions : t-conorms.

UNIT III

Fuzzy Logic: Classical logic – multivalued logics – fuzzy propositions – fuzzy quantifiers.

UNIT IV

Fundamentals of Neural Networks: Basic concepts – Model of an Artificial Neuron – Neural Networks Architectures – characteristics of Neural Network – Learning Methods – Early Neural Network Architectures.

UNIT V

Back propagation Networks: Introduction – Architecture of a Back propagation Networks – Back propagation Learning.

Text Book:

1.George J.Klir and Boyman, Fuzzy sets and Fuzzy Logic – Theory and Applications, PHI Learning Pvt.Ltd., 2012. (for units – I, II and III)

2. S. Rajasekaran and G.A.Vijayalakshmi Pai, Neural Networks, Fuzzy Logic and Genetic Algorithms,PHI Learning Pvt. Ltd., 2008. (for units – IV and V)

Unit I Chapter1,2 Sec 1.2,1.3,1.4,2.1,2.2,2.3
Unit II Chapter 3 Sec 3.1 – 3.4
Unit III Chapter 8 Sec 8.1 – 8.3
Unit IV Chapter 2 Sec 2.1,2.3 – 2.6,2.9
Unit V Chapter 3 Sec 3.1,3.2.

Reference:

George J.Klir and Tina A.Folger, Fuzzy Sets,Uncertainty and Information, Prentice-Hall of India Private Limited-Fourth printing-June 1995.