

TABLE OF CONTENTS

	PAGE NO	
Certificate by the Supervisor	ii	
Declaration by the Scholar	iii	
Acknowledgement	v	
List of Tables	xiii	
List of Figures	xv	
List of Appendices	xvii	
CHAPTER I	INTRODUCTION	1-29
1.1 Training	1	
1.2 Sports Training	1	
1.2.1 Aim of Sports Training	2	
1.3 Sports Specific Training	2	
1.3.1 Importance of Specific Training	3	
1.3.2 Specific Training for Tennis Ball Feeding Machine	3	
1.3.3 Lobster Ball Feeding Machine	4	
1.3.4 Advantages of Tennis Ball Machine	5	
1.3.5 Suitable for Any Level of Players	6	
1.3.6 Specific Drills through Tennis Ball Feeding Machine	6	
1.4 Tennis	7	
1.5 History and Development of Tennis	7	
1.6 History of Indian Tennis	8	
1.6.1 Origin of Tennis in India	8	
1.6.2 All India Tennis Association	9	
1.7 Motor Quality Variables	10	
1.7.1 Importance of Motor Qualities of Tennis Players	10	

1.8 Physical Fitness Demands of Tennis Players	12
1.8.1 Benefits of physical Fitness	13
1.9 Coordinative Abilities	14
1.9.1 Types of Coordinative Abilities	15
1.9.2 Importance of Coordinative Abilities	17
1.10 Physiology	18
1.10.1 Importance of Physiology	19
1.10.2 Peak Expiratory Flow	19
1.10.3 Peak Inspiratory Flow	20
1.10.4 Maximal Voluntary Ventilation	20
1.11 Skills in Tennis	21
1.11.1 Forehand Drive	21
1.11.2 Backhand Drive	21
1.11.3 Volley	22
1.12 Justification of the Study	22
1.13 Objectives of the Study	23
1.14 Statement of the Problem	23
1.15 Hypotheses	23
1.16 Significance of the Study	24
1.17 Delimitations	24
1.18 Limitations	26
1.19 Definition of Terms	26
1.19.1 Ball Feeding Machine	26
1.19.2 Speed	26
1.19.3 Strength	26
1.19.4 Agility	27
1.19.5 Coordinative Abilities	27

1.19.6 Space Orientation Ability	27
1.19.7 Differentiation Ability	27
1.19.8 Complex Reaction Ability	28
1.19.9 Peak Expiratory Flow	28
1.19.10 Peak Inspiratory Flow	28
1.19.11 Maximal Voluntary Ventilation	28
1.19.12 Forehand Drive	28
1.19.13 Backhand Drive	29
1.19.14 Volley	29
CHAPTER II	REVIEWS OF RELATED LITERATURE
	30-75
2.1 Reviews on Specific Training	30
2.2 Reviews on Motor Qualities	37
2.3 Review on Coordinative Abilities	49
2.4 Reviews on Physiological Variables	57
2.5 Reviews on Skill Performance Variables	63
2.6 Summary of Literature	75
CHAPTER III	METHODOLOGY
	76- 110
3.1 Selection of Subjects	76
3.2 Selection of Variables	76
3.2.1 Independent Variable	76
3.2.2 Dependent Variables	76
3.3 Experimental Design	77
3.4 Pilot Study	80
3.5 Criterion Measures	80
3.5.1 Motor Quality Variables	80
3.5.2 Coordinative Ability Variables	80
3.5.3 Physiological Variables	81

3.5.4 Skill Performance Variables	81
3.6 Reliability of Data	81
3.7 Instrument Reliability	81
3.8 Reliability of the Test	81
3.9 Tester's Reliability	82
3.10 Subject's Reliability	83
3.11 Orientation of the Subject	83
3.12 Specific Training Programme	83
3.13 Test Administration	97
3.13.1 Motor Quality Variables	97
3.13.1.1 Cardio Respiratory Endurance	97
3.13.1.2 Shoulder Strength	98
3.13.1.3 Agility	99
3.13.2 Coordinative Ability Variables	100
3.13.2.1 Space Orientation Ability	100
3.13.2.2 Differentiation Ability of Upper Limbs	102
3.13.2.3 Complex Reaction Ability	104
3.13.3 Physiological variables	105
3.13.3.1 Peak Expiratory Flow, Peak Inspiratory Flow and Maximal Voluntary Ventilation	105
3.13.4 Skill performance Variables	108
3.13.4.1 Hewitt's Forehand and Backhand Drive Test	108
3.13.4.2 Dyer Backboard Tennis Test	109
3.14 Collection of Data	110
3.15 Statistical Technique	110

CHAPTER IV	RESULTS AND DISCUSSIONS	111-142
4.1	Over View	111
4.2	Test of Significance	112
4.3	Level of Significance	112
4.4	Computation of 't' Test	112
4.4.1	Results on Cardio Respiratory Endurance	113
4.4.1.1	Discussion on Findings of Cardio Respiratory Endurance	114
4.4.2	Results on shoulder Strength	115
4.4.2.1	Discussion on Findings of Shoulder Strength	116
4.4.3	Results on Agility	118
4.4.3.1	Discussion on Findings of Agility	119
4.4.4	Results on Space orientation Ability	120
4.4.4.1	Discussion on Findings of Space orientation Ability	121
4.4.5	Results on Differentiation Ability of Upper Limbs	123
4.4.5.1	Discussion on Findings of Differentiation Ability of Upper Limbs	124
4.4.6	Results on Complex Reaction Ability	125
4.4.6.1	Discussion on Findings of Complex Reaction Ability	126
4.4.7	Results on Peak Expiratory Flow	127
4.4.7.1	Discussion on Findings of Peak Expiratory Flow	128
4.4.8	Results on Peak Inspiratory Flow	129
4.4.8.1	Discussion on Findings of Peak Inspiratory Flow	130
4.4.9	Results on Maximal voluntary ventilation	132
4.4.9.1	Discussion on Findings of Maximal voluntary ventilation	133
4.4.10	Results on Forehand Drive	134
4.4.10.1	Discussion on Findings of Forehand Drive	135
4.4.11	Results on Backhand Drive	136

