

CHAPTER	CONTENTS	PAGE No.
I	INTRODUCTION	1-5
	I.A General	1
	I.B. Location and Communication	1
	I.C. Physiography	2
	I.D. Duration and type of work	2
	I.E. Scope of study	4
II	GEOLOGICAL SETTING	6-54
	II.A Review of Literatures	6
	A.1 Banded gneissic complex and its equivalent	8
	A.2 The Aravalli System	9
	A.3 The Delhi System	14
	A.4 Intrusive rocks	17
	4.1 Intrusive rocks in the Aravallis.	17
	4.2 Intrusive rocks in the Delhis.	24
	PREVIOUS WORK ON LITHOSTRATIGRAPHY.	27
	II.B Geological setting of the study area.	
	General Introduction	31
	II.C Revised stratigraphy of Jharol area	32
	The Jharol sequence	35
	C.1 Barvalli formation	36
	C.2 Kirat formation	41
	C.3 Goran formation	45
	C.4 Shamlaji formation	46
	C.5 Bagpura formation	50
	II.D The Intrusive Rocks	51

III	STRUCTURAL GEOLOGY	55-133
	III.1 Introduction	55
	III.2 FCC data Interpretation	57
	III.3 Mesoscale structures	67
	3.A Field observations	67
	A.1 AF ₂ fold episode	72
	(Fold episode-I in Jharol group)	
	A.2 AF ₃ fold episode	75
	(Fold episode-II in Jharol group)	
	A.3 AF ₄ fold episode	77
	(Fold episode-III in Jharol group)	
	3.B Types of Veins developed in shear zones	81
	3.C Determination of sense of shear.	85
	3.D Shear Sense indicators on mesoscale	91
	III.4 Microscale structures	100
	4.A Mylonites and mylonitization	100
	A.1 Types of S-C mylonites	106
	1.a Type-I S-C mylonites	106
	1.b Type-II S-C mylonites	106
	A.2 Mylonites under SEM	116
	4.B Foliations around rigid crystals	121
	B.1 Microfolds around rigid crystals	121
	B.2 Porphyroblast rotation	126
IV	PETROGRAPHY AND METAMORPHISM	134-176
	IV.A Petrography	135
	A.1 Mafic	135
	A.2 Pelites	140
	A.3 Psammites (quartzites)	151
	IV.B Metamorphism	154
	B.1 Regional metamorphism	156

	1.A Progressive metamorphism	157
	A.1 Metamorphic facies and assemblages	158
	A.2 Migmatization	165
	1.B Retrogressive metamorphism	166
	Discussion and conclusion	169
V	GEOLOGICAL EVOLUTION AND TECTONIC IMPLICATIONS	177-200
	V.1 Established facts	177
	V.2 Mode of deposition of the Jharol group	180
	V.3 Basin Evolution	184
	V.4 Tectonic model	188
VI	RESUME	201-216
	VI.1.A Stratigraphy	201
	1.B Structures	206
	1.C Metamorphism	209
	1.D Tectonics	212
	VI.2 Concluding remarks	214
	BIBLIOGRAPHY	217-239