No. of Fig./Plate	Description of figures and plates	Page No
Fig. 1.1	Location map of the study area.	2
Fig. 2.1	Geological mp showing mainly the Precambrian rocks of Eastern	8
	Gujarat and adjoining States.	
Fig. 3.1.a	Satellite imagery (LISS-III) for the area around Chhota Udepur.	20
Fig. 3.1.b	Regional lineament map around Chhota Udepur-Baria-Godhra-Bodeli	21
	area.	
Fig. 3.2	Geological Map around Chhota Udepur area, Eastern Gujarat, India. 🗡	Back envelop
Fig. 3.2.1	Geological map around Goidia area, southwest of Chhota Udepur,	27
	Eastern Gujarat.	
Fig. 3.2.2	Geological map of Wawadi- Kasum area, southwest of Chhota Udepur,	28
	Eastern Gujarat.	
Fig. 3.2.3	Geological map of Luni area, south of Chhota Udepur, Eastern Gujarat.	29
Fig. 3.2.4	Geological map around Chhota Udepur, Eastern Gujarat.	30
Fig. 3.2.5	Geological map around Longami- Baroj are, north of Chhota Udepur	31
	Eastern Gujarat.	
Fig. 4.a	S_2 crenulation cleavage in Wawadi area developed within quartz-rich	38
	muscovite-biotite schist, where S_2 is an acute angle with S_1 .	
Fig. 4.b	S-shaped F_2 folds. Variations of wavelengths of folds are noted within	38
	quartzite and co folded mica schist.	
Fig. 4.c	Z -shaped F_2 folds exhibited by quartz vein within mica schist near	39
	Wawadi.	
Fig. 4.d	Σ - shaped F_2 folds exhibited by quartz veins and micaceous quatzite near	39
	Wawadı.	
Fig. 4.e	F_2 - F_3 coaxial folds are recorded, south of Wawadi.	40
Fig. 4.f	Σ Shaped folds are noted with quartzite, which too have sharp hinge.	41
Fig. 4.g	The angle between F_1 fold axis (L ₁) and F_2 fold axis (L ₂) is maximum	42
	near Luni (80° to 90°).	
Fig. 4.i	Pinch and swell structure near Wawadi.	59

•

Fig. 4.j	Rectangular boudin near Goidia.	59
Plate 4.1.a	Early lineation (L_1) has rotated around the hinge of the later, Fold (F_2).	36
	F_2 having broad hinge, Goidia, b) Early lineation (L1) has rotated	
	around the hinge of the later, Fold (F_2) axis. F_2 having sharp hinge; c)	
	Deformed conglomerate pebble shows strong elongation along F_2 near	
	Goidia. D) "Z" shaped geometry exhibited by F_2 folds in the eastern	
	slope of Goidia hill,E) Tight F _{2 folds} in kyanite schist near Wawadi.	
Plate 4.2.a	Z shaped geometry of F_2 fold near Luni; b. Folded pegmatite vein (F_2)	43
	effected by shearing is noted, east of Chhota Udepur; c South of	
	Longami within alternating leucocratic and melanocratic bands	
	(parallel to S_2) of garnet -biotite- cordierite- sillimanite gneiss F_1	
	occurs as mesoscopic rootless folds; d. One of the exposed limb of F_3	
	fold is seen to have affected F_2 foliation producing upright fold, in the	
	eastern slope of Moti Sadli Hill; e. Brittle deformation in k-feldspar	
	vein and ductile deformation in quartz + k-feldspar veins.	
Fig. 4.2.1.a	S ₁ poles plotted for different sectors.	46
Fig. 4.2.1.b	S ₁ poles for different sectors.	47
Fig. 4.2.2.a	S ₂ poles for different sectors.	48
Fig. 4.2.2.b	S ₂ poles for different sectors.	49
Fig. 4.2.3.a	Plunge of L ₁ lineations for different sectors.	50
Fig. 4.3.3.b	Plunge of L ₁ Lineations for different sectors.	51
Fig. 4.2.4.a	Plunge of L ₂ lineations for different sectors.	52
Fig. 4.2.4.b	Plunge of L ₂ lineations for different sectors.	53
Fig. 4.2.5.	Poles of S_2 plotted for the study area Plunge of L_2 lineations.	54
Fig. 4.2.6.	Plunge of L_1 and L_2 lineations for different sectors for the study are.	55
Fig. 4.2.7.	Plunge of L_3 and L_4 lineations for different sectors for the study area.	56
Fig. 4.3.	Patterns of L_1 and L_2 lineations around F_2 and F_3 hinges respectively.	57
Fig. 4.4.1.	Flinn's plot for strain analysis in quartz boudin and pebbles of Pre Champaner	61
	Gneiss.	
Fig. 4.4.2.	Flinn's plot for strain analysis in quartzite pebbles in Champaner Group.	61
Fig. 4.5.	Bouguer gravity map of Chhota Udepur area, Eastern Gujarat.	63

Fig. 4.6	Regional tectonic map of West-Central India showing major tectonic block.	64
Fig. 5.1.	Garnet porphyroblast with straight parallel internal Inclusions. Internal	78
	Inclusions make an angle with the external schistosity.	
Fig. 5.2	Elongate /Lobate garnet with sillimanite inclusion.	78
Fig. 5.3	Garnet occurs as equant porphyroblasts with profuse quartz and biotite	78
	inclusions in the central part.	
Fig. 5.4	Elongate habit of the cordierite with oriented sillimanite crystals.	79
Fig. 5.5	Large prismatic sillimanite grains included within garnet porphyroblast.	79
Fig. 5.6	Kyanite grains are aligned along S1 and also along S2.	79
Fig. 5.7	Textures like inclusion of biotite (Bt1), quartz and plagioclase within garnet	80
	porphyroblasts indicates garnet producing dehydration reaction	
Fig. 5.8	Rimming of cordierite around corroded garnet crystals indicates a cordierite	80
	forming reaction.	
Fig. 5.9	Corroded garnet is seen to have rimmed by biotite and plagioclase.	80
Fig. 5.10	Quartz- biotite symplectite is a evidence of garnet breaking reaction by	80
	isobaric cooling.	
Fig. 5.11	Semiquantitative P-T-t path derived from pelitic assemblage.	90
Fig. 6.1	IUGS classification (QAP diagram) of granite and granite gneiss of Chhota	92
	Udepur area.	
Fig. 6.2	Shand's diagram for Pre-Champaner Granite Gneiss: Molar	96
	$Al_2O_3/(CaO+Na_2O+K_2O)$ vs. $Al_2O3/(Na_2O+K_2O)$	
Fig. 6.3.a to	Different variations diagrams of Moniar and Piccoli, 1989 for granitoids.	96
6.3.d		
Fig. 6.4.	Bathelor & Bouden's tectonic discrimination diagram for granitic rocks.	97
Fig. 6.5.a	Rb-Sr isochron plot for Pre Champaner granite Gneiss (five point isochron).	100
Fig. 6.5.b	Rb-Sr isochron plot for nonfoliated Godhra Granite (five point isochron)	100