

SEMESTER-I

21GGE501T - STRUCTURAL GEOLOGY										
Teaching Scheme					Examination Scheme					
L	T	P	C	Hours/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	1	0	4	4	25	50	25	-	-	100

Unit I **Hours: 10**

Methods of constructing profiles of folds: Convolute and evolute methods, Concentric-arc method, Kink-style construction, Dip-isogon method, Down-plunge projection method Tectonites: Different types and their significance. Petrofabric analysis. Relationship between deformation and metamorphism and criteria for recognition. Relative dating of orogenic belts.

Unit II **Hours: 10**

Principles of Structural Analysis. Interference patterns in superposed folding and structural geometry in superposed folding. Behavior of lineations in superposed deformations. Use of foliations and lineations in tectonic analysis.

Unit III **Hours: 10**

Analysis of slate belts with simple and multiple deformations. Mapping in gneiss terranes. Migmatite complexes, reworking of basement rocks, mantled gneiss domes. Analysis of shear zones: Different types, Shear zone rocks, Shear sense indicators.

Unit IV **Hours: 10**

Balanced cross-sections of thrust-belts. Applications of balanced cross-sections. Analysis of fractures: Lineament-Array analysis and its significance for regional exploration programme, Jointarray Analysis and its significance, Fault-array Analysis. Introduction to stress and strain analysis.

MAX <40 Hrs>

TEXT / REFERENCE BOOKS

1. Structural Geology by Billings Marland P, Pearson Publication
2. Structural Geology by Haakon Fossen