

CONTENTS

Introduction	11
Part one. Main properties of textile fibres	13
Chapter	
1. Substances contained in textile fibres	13
2. The structure and composition of cellulose vegetable fibres	20
3. The action of physical and chemical agents on cellulose	30
4. Natural admixtures of cotton fibres “ Alied Celluloses”	46
5. Man – made cellulose fibres	57
6. General notions on protein fibres	64
7. Wool	76
8. Silk	97
9. Synthetic fibres	109
Part Two . Major operations preceding dyeing and printing	126
Chapter	
1. Bleaching of cellulosic fibrous materials	126
2. Technology of cotton fabric leaching	164
3. Mercerization	210
4. Bleaching of linen goods	222
5. Preparation of fabrics made of man – made cellulose fibres	245
6. Preparation of woollen fabrics	256
7. Preparation of natural silk for dyeing	294
8. Preparation for dyeing of fabrics manufactured from synthetic fibres and blends of cellulose and synthetic fibres	308
Part three . Dyeing of fibrous materials	315
Chapter	
1. Brief outlines of the history of dyeing	315
2. Modern concepts of the theory of dyeing	319
3. Surface – active substances	340
4. Review of dyeing methods	348
5. Dyeing with direct dyes	364
6. Acid dyes and their use	394
7. Dyeing with acid – mordant (chrome) dyes	407
8. Reactive dyes and their use	417
9. Dyeing with vat dyes	434
10. Dyeing with sulphur dyes	455
11. Formation of aniline black on the fibre	468

12. Formation of insoluble azoic dyes on a fibre	482
13. Dyeing of polyacrylonitrile fibres with basic (cationic) dyes	503
14. Dyeing with disperse dyes	505
Part four. Textile printing	516
Chapter	
1. Printing techniques	516
2. Patterns and methods of engraving printing rollers	538
3. Equipment for preparation of fabrics for printing and for their treatment after printing	547
4. Printing colours and equipment of the colour room	560
5. Formation of insoluble azoic dyes on the fabric in printing	578
6. Printing with vat dyes	590
7. Aniline black formation and pigment printing	604
8. Printing with reactive dyes	606
9. Printing with disperse dyes	608
10. Printing on fabrics produced from fibre blends	610
11. Obtaining white and colour patterns on dyed fabrics (discharges and resists)	613
Part five. Fabric finishing	633
Chapter	
1. General	633
2. Application of resins for finishing	636
3. Different processes of fabric finishing	643
Index	680