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**“Experimental Study to Evaluate The Effect of Physico-
Chemical Treatments on Color Fastness Rates of Some
Natural Dyes and Pigments on Different Cellulosic
Manuscripts with Practical Applications in The Field.”**

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AIM OF THE PRESENT WORK

The research aims of this study were to:

- Understand the technique of dyeing paper with natural dyes and their colorfastness properties so that the paper conservators can make better decisions about the colorants or dyes selected for conservation treatments of art of works on paper.
- Evaluate the dye ability of some natural dyes on cotton paper pulp via spectrophotometric measurements, The influence of post treatment on the dye ability of some natural colorants , color strength values (K/S) and color change of dyed samples were investigated .
- Study the influence of selected aqueous and non aqueous de-acidification treatments on the color strength K/S and color fastness of some natural historical dyes (saffron dye, turmeric dye, and cochineal dye), colorimetric measurements and spectral measurements (FTIR) were used to assess the color change of dyed samples.
- Evaluate the influence of some selected cleaning treatments on the chemical properties and optical properties of some historical paper samples and studying the efficiency of cleaning methods in removing of degradation products.
- Evaluate the efficiency of some selected consolidating agents in consolidating of cellulosic paper substrates.
- Control the ageing tests of the dyed paper samples, the outcome of this stage of the studies allows us to go ahead to the second step – to select the ideal conservation treatments of the original artifact.

TABLE OF CONTENTS

	Pages
ACKNOWLEDGMENT	I
AIM OF THE STUDY	II
LIST OF TABLES	III
LIST OF FIGURES	VIII
ENGLISH SUMMARY	XXVII
CHAPTER I: INTRODUCTION	1
CHAPTER II: REVIEW OF LITERATURE.....	4
Section 1. Paper materials	4
Section 2. History of dyestuffs and dyeing of paper.....	7
Section 3. Common reasons for coloring paper sheets	13
Section4. Dyeing process of paper in ancient era	14
Section 5. Historical recipes of common colors.....	19
Section 6. Conservation treatments	33
Documentation	35
Cleaning methods	40
Consolidation treatments	59
De-acidification treatments (Alkalization)	63
Nanoparticles	85
CHAPTER III: EXPERIMENTAL WORK	88
Materials	88

	Pages
Methods.....	89
Section 1: Dye ability and Color intensity (K/S) values of dyed paper...	92
Colorimetric measurements and K/S values	92
FTIR spectra of paper samples dyed with selected dyes	103
Section 2: Evaluation of De-acidification treatments	121
Evaluation of pH values before and after de-acidification	125
Colorimetric measurements	131
Morphological observations of paper samples	147
FTIR analysis of de-acidified paper samples.....	148
Section 3: Conventional and nonconventional cleaning procedures	149
Specimens	149
Materials	149
Morphological observations of paper samples	151
FTIR spectra of paper samples before & after cleaning	154
Evaluation of pH values before and after cleaning treatments.....	159
Determination of paper crystallinity with X-ray Diffraction Analysis (XRD)	160
Physical Testing (Tensile strength and elongation for Paper samples after cleaning treatments	163
CIE Lab color variations measured with Color I Match Spectrophotometer	165
Section 4: Consolidation treatments.....	166
Specimens	166

	Pages
Materials	166
Morphological observations of paper samples	170
Fourier Transform Infrared Spectroscopy	175
Determination of paper crystallinity with X-ray Diffraction Analysis (XRD)	185
Physical Testing	188
CIE Lab color variations measured with Color I Match Spectrophotometer	190
RESULTS AND DISCUSSION	204
CHAPTER VI: APPLIED CHAPTER	250
Description of the manuscript.....	250
Testing and analysis	251
Materials and methods Used in conservation treatments of the object.....	270
List of images.....	277
Result And Discussion.....	284
SIGNIFICANT STUDY RESULTS	291
CONCLUSION.....	296
REFERENCES.....	302
ARABIC SUMMARY	1-14

LIST OF TABLES

Table No.	Pages
Table (1) Represents color components values L,a,b and color intensity K/S values of saffron dyed paper samples with different mordants.	93
Table (2) Represents color components values L,a,b and color intensity K/S values of turmeric dyed paper samples with different mordants.	94
Table (3) Represents color components values L,a,b and color intensity K/S values of cochineal dyed paper samples with different mordants.	95
Table (4) Represents color components values L,a,b and color intensity K/S values of aged dyed paper samples with different mordants.	99
Table (5) Represents color components values L, a, b and color strength (K/S) values of aged dyed paper samples with different mordants.	99
Table (6) Represents color components values L,a,b and color strength K/S values of aged dyed paper samples with different mordants.	99
Table (7) Represents function groups of saffron dye	104
Table (8) Represents function groups of dyed paper sample with saffron dye (without mordant).	105
Table (9) Represents function groups of dyed paper sample with saffron dye (citric acid post treatment).	106
Table (10) Represents function groups of dyed paper sample with saffron dye (tannic acid post treatment).	107

Table No.	Pages
Table (11) Represents function groups of dyed paper sample with saffron dye (chitosan post treatment).	108
Table (12) Represents function groups of turmeric dye.	110
Table (13) Represents function groups of dyed paper sample with turmeric dye (without mordant).	111
Table (14) Represents function groups of dyed paper sample with turmeric dye (citric acid post treatment).	112
Table (15) Represents function groups of dyed paper sample with turmeric dye (tannic acid post treatment).	113
Table (16) Represents function groups of dyed paper sample with turmeric dye (chitosan post treatment).	114
Table (17) Represents function groups of cochineal dye.	116
Table (18) Represents function groups of dyed paper sample with Cochineal dye (without mordant).	117
Table (19) Represents function groups of dyed paper sample with Cochineal dye (citric acid post treatment).	118
Table (20) Represents function groups of dyed paper sample with Cochineal dye (tannic acid post treatment).	119
Table (21) Represents function groups of dyed paper sample with Cochineal dye (chitosan post treatment).	120
Table (22) Represents pH values of acidified paper samples dyed with saffron before & after deacidification treatments (washing, spraying, brushing and gelifying).	126
Table (23) Represents pH values of acidified paper samples dyed with turmeric before & after deacidification treatments (washing, spraying, brushing and gelifying).	126

Table No.	Pages
Table (24) Represents pH values of acidified paper samples dyed with Cochineal before & after deacidification treatments (washing, spraying, brushing and gelifying).	126
Table (25) The changes of lightness L^* and chromatic coordinates a^* and b^* for dyed paper samples induced by the deacidification (Magnesium hydroxide Nano powder aqueous treatment) and accelerated ageing.	132
Table (26) The changes of lightness L^* and chromatic coordinates a^* and b^* for dyed paper samples induced by the deacidification (Magnesium hydroxide Nano powder aqueous treatment) and accelerated ageing.	133
Table (27) The changes of lightness L^* and chromatic coordinates a^* and b^* for dyed paper samples induced by the deacidification (Magnesium hydroxide Nano powder aqueous treatment) and accelerated ageing.	134
Table (28) Represents pH values of paper samples treated with magnesium oxide nanoparticles dispersion in 2-propanol & aqueous treatment.	140
Table (29) The changes of lightness L^* and chromatic coordinates a^* and b^* for dyed paper samples induced by the deacidification treatment (Magnesium oxide Nano particles non aqueous treatment) and accelerated ageing.	141
Table (30) The changes of lightness L^* and chromatic coordinates a^* and b^* for dyed paper samples induced by the deacidification treatment (Magnesium hydroxide Nano particles non aqueous treatment) and accelerated ageing.	142

Table No.	Pages
Table (31) Represents CIE Lab color variations measured of cochineal dye treated after deacidification procedures. (Magnesium hydroxide Nano powder non aqueous treatment)	146
Table (32) Represents function groups of paper samples before cleaning treatments.	154
Table (33) Represents pH values of paper samples before & after Cleaning treatments.	159
Table (34) Represents Crystallinity index % of paper samples before & After cleaning treatments.	160
Table (35) Represents Tensile strength and elongation for paper samples After cleaning treatments.	164
Table (36) Represents CIE lab color values of paper samples before & After cleaning treatments.	165
Table (37) Represents function groups of paper samples before & After consolidation treatments.	177
Table (38) Represents function groups of paper samples before & after Consolidation treatments with CNC1%.	179
Table (39) Represents function groups of paper samples before & after Consolidation treatments with Funori 1%.	181
Table (40) Represents Crystallinity index % of paper samples after Consolidation treatments.	185
Table (41) Represents tensile strength, breaking factor & tear strength of paper samples after consolidation treatments.	188

Table No.	Pages
Table (42) Represents tensile strength, breaking factor & tear strength Of aged paper samples after consolidation treatments.	18+
Table (43) Represents CIE lab color values of paper samples before & After consolidation treatments.	190
Table (44) Represents different peaks observed in Raman Spectrum of yellow dyed paper.	212
Table (45) Represents the different peaks observed in Raman Spectrum of blue dyed paper.	214
Table (46) Represents function groups of historical paper sample.	215
Table (47) Represents function groups of historical leather sample.	216

LIST OF FIGURES

Fig. No.		Pages
Figure 1:	Represents the yellow color hues obtained with saffron extract dyed with the selected mordant compared with the untreated sample.	93
Figure 2:	Shows color intensity values (K/S) of saffron dye fixed by citric acid, tannic acid and chitosan post treatment.	93
Figure 3:	Represents the yellow colour hues obtained with turmeric extract with the selected mordant compared with the untreated sample.	94
Figure 4:	Shows color intensity values (K/S) of curcumin dye fixed by citric acid, tannic acid and chitosan post treatment.	94
Figure 5:	Represents the red colour hues obtained with cochineal extract with the selected mordant compared with the untreated sample.	95
Figure 6:	Shows color intensity values (K/S) of cochineal dye fixed by citric acid, tannic acid and chitosan post treatment.	95
Figure 7:	Variation of the color component (L*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with saffron dye .	96
Figure 8:	Variation of the color component (a*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with saffron dye .	96
Figure 9:	Variation of the color component (b*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with saffron dye .	96

Fig. No.	Pages
Figure 10: Variation of the color component (L^*) (a^*) and (b^*) with the colour strength (K/S) values for un mordanted and mordanted paper samples dyed with turmeric dye .	97
Figure 11: Variation of the color component (a^*) with the colour strength (K/S) values for un mordanted and mordanted paper samples dyed with turmeric dye .	97
Figure 12: Variation of the color component (b^*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with turmeric dye	97
Figure 13: Variation of the color component (L^*) and with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with cochineal dye.	98
Figure 14: Variation of the color component (a^*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with cochineal dye.	98
Figure 15: Variation of the color component (b^*) with the color strength (K/S) values for un mordanted and mordanted paper samples dyed with cochineal dye.	98
Figure 16: Represents color strength values (K/S) of aged dyed paper with saffron dye fixed with citric acid, tannic acid and chitosan post treatment.	100
Figure 17: Represents the changes in the color difference (ΔE) with the color strength (K/S) for dyed paper samples with saffron dye.	100

Fig. No.	Pages
Figure18: Represents color strength values (K/S) of aged dyed paper with turmeric dye fixed with citric acid, tannic acid post treatment and chitosan.	101
Figure19: Represents the changes in the color difference (ΔE) with the color strength (K/S) for dyed paper samples with turmeric dye.	101
Figure 20: Shows color intensity values (K/S) of aged cochineal dye fixed by citric acid, tannic acid and chitosan post treatment.	102
Figure 21: Represents the changes in the colour difference (ΔE) with the color strength (K/S) for dyed paper samples with cochineal dye.	102
Figure 22: FTIR spectrum of saffron dye.	104
Figure 23: FTIR spectrum of paper sample dyed with saffron dye without fixing.	105
Figure 24: FTIR spectrum of paper sample dyed with saffron dye citric acid post treatment.	106
Figure 25: FTIR spectrum of paper sample dyed with saffron dye tannic acid post treatment.	107
Figure 26: FTIR spectrum of paper sample dyed with saffron dye chitosan post treatment.	108
Figure 27: FTIR spectrum of paper samples dyed with saffron dye with different dye fixatives.	109
Figure 28: FTIR spectrum of curcumin dye.	110
Figure 29: FTIR spectrum of paper sample dyed with turmeric dye without fixing.	111
Figure 30: FTIR spectrum of paper sample dyed with turmeric dye citric acid post treatment.	112

Fig. No.	Pages
Figure 31: FTIR spectrum of paper sample dyed with turmeric dye tannic acid post treatment.	113
Figure 32: FTIR spectrum of paper sample dyed with turmeric dye chitosan post treatment.	114
Figure 33: FTIR spectrum of paper samples dyed with turmeric dye with different dye fixatives.	115
Figure 34: FTIR spectrum of Cochineal dye.	116
Figure 35: FTIR spectrum of paper sample dyed with Cochineal dye without mordant.	117
Figure 36: FTIR spectrum of paper sample dyed with cochineal dye citric acid post treatment.	118
Figure 37: FTIR spectrum of paper sample dyed with cochineal dye tannic acid post treatment.	119
Figure 38: FTIR spectrum of paper sample dyed with cochineal dye chitosan post treatment.	120
Figure 39: Shows FTIR spectrum of paper samples dyed with cochineal dye with different dye fixatives.	121
Figure 40: Shows pH values of saffron dyed samples (without fixing) before and after deacidification procedures (Washing, Spraying, brushing and Gelifying).	127
Figure 41: Shows pH values of saffron dyed samples (citric acid post treatment) before and after deacidification procedures (Washing, Spraying, brushing and Gelifying) .	127
Figure 42: Shows pH values of saffron dyed samples (tannic acid post treatment) before and after deacidification procedures (Washing, Spraying, brushing and Gelifying).	127