

**Cairo university**  
**Faculty of Archaeology**  
**Conservation Department**

Master thesis on  
**Techniques and method of Treatment of  
Decorated Tapestry Applied on selected  
objects**

For the Fulfillment of Master Degree on Conservation

**Presented of**  
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## Summary

The study consists of six chapters about the methods of restoration of tapestry Applied on chosen Samples:

### Chapter one:

This part consist of three sections under title

#### **“A study in history and beginning of Tapestry”**

shows the beginning and development of Tapestry from old dynasty to the Islamic period. the decoration methods and pictorial subjects applied on the tapestry. the places where the tapestry made. the technique and method of making Tapestry and the looms.

### Chapter two:

This part consist of two sections under title

#### **“A study of fibers and dyes”**

Section one :shows the identification of cellulosic fibers “plant fibers, protein fibers “Animal fibers. the chemical and morphological structure , chemical and morphological properties and cross section ,length section under microscope .

Section two :shows the natural Dyes and methods of dyeing and sources of Blue, Red, Yellow Dyes from plants and animals and other compound Dyes , chemical and structure compound for each Dye. and the best method for having good dye. Mordant used in dyeing Tapestry

### Chapter three:

This part consist of three sections under title

#### **“Deterioration factors of Tapestry”**

Section one: shows the physio-chemical factors (light ,heat ,relative humidity and other pollution factors) on fibers.\_

Section two: shows the negative effects of insects and micro-organisms on fibers . the study discusses the families and genus of insect ,on other side the study shows all kinds and genus of micro-organisms such as bacteria and fungi.

Section three: : the study shows the man-made deterioration factor which divide in two kind :The first kinds intentionally factors such as robbery and evil humans the other kind is unintentionally like touching monuments by hand, writing on monuments, smoking, bad manufacturing ,no or less conservation ,bad storage ,bad display and wrong restoration.

### Chapter four:

This part consist of three sections under title

#### **“The Restoration of Tapestry”**

Section one: shows the methods of cleaning operations which divide into mechanical cleaning and chemical cleaning ( dry cleaning ,wet cleaning, washing operation, cleaning with chemical solution) and Laser cleaning.

Section two: shows the consolidation operations which applied on Tapestry in this section the study shows methods of treatment of tears ,consolidation by needle working ,consolidation by using different Resins.

Section three: , the study shows the method of display and storage of Tapestry such as Velcro support ,Nylon net ,putting under glass and flatting display. in addition with methods of storage such as rolling, flatting method, hanging on

#### **Chapter five:**

This part consist of three sections under title

##### **"Experimental studies in natural Dyes, consolidation of natural wool"**

the study applied two natural Dyes such as curcum and cochineal .using two mordant such as Alum and tin chloride. The study records the results in sheets containing the case of wool, tensile strength and Elongation of dyed fiber.

Then the study make Ageing of dyed fiber using heat and light in several ranges of heat and times. Then measuring forces of break after Ageing and recording the tensile strength and Elongation of dyed fiber. then the study deals with the consolidants which applied on dyed wool fiber using three concentration

#### **Chapter six:**

This part consist of three sections under title

##### **"Practical and Application in treatment and conservation of Tapestry"**

Section one: shows Artistic and technical analysis of four pieces of tapestry from the collections of Arts-applied faculty in Cairo .the pieces made of linen in warp and wool in weft. The study descripted each one by measuring it geometrically and definded the fiber and dyes used in it, and explain the main factors of deterioration of it.

Section two: shows measuring and analysis and scientific tests : applied on samples taking from four pieces. the study used (x-Ray Diffraction S.E.M ,Infra-red).

Section three ;the study shows the methods of restoration of four pieces.

Section four; shows the scientific method for display and storage of tapestries. Finally the study shows the results reached and gave some advices to restorers working in field.