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- 1- **DATE AND PLACE OF BIRTH:**11/3/1979 – Kafr Sakr ,Sharkia.
- 2- **Nationality :**Egyptian
- 3- **DEGREE/** For the partial fulfillment of Ph.D
- 4- **Specialization/** treatment and conservation of monuments
- 5- **Supervisor(S)/**
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- 6- **Title Of Thesis :**Applied study in analysis and development of archaeological ceramic and retreatment of some selected objects.

Summary: The thesis mainly focuses on the analysis and development of ancient ceramic with restoration of some selected objects. It contains 6 chapters and the contents of the thesis can be summarized as follows:

Chapter I: archaeological pottery and ceramics (compositions and properties)

This chapter focuses on the raw materials used in the pottery and ceramics manufacture as well as decoration materials and methods which play an important role in the re-treatment. The Egyptian pottery had various stages of developments in terms of raw materials, methods of manufacture and decoration methods which divided into ancient Egyptians Pottery, pottery with Coptic influences and Islamic ceramic.

Chapter II: Analytical study:

This chapter deals with analysis methods used in the study of some pottery samples from Al- Fustat site.

- Polarized microscope
- Proton Induced X-ray Emission (PIXE)
- Laser-Induced Breakdown Spectroscopy LIBS
- X-Ray Diffraction XRD

Chapter III: Development of conservation materials

various materials were used in the restoration works of ceramic which cause salts as result of chemical cleaning with acidic materials. Physio-chemical transformations of consolidants and adhesives caused by deterioration factors temperature, light and relative humidity. Conservation materials divided into two categories based on the date use, first there are ancient materials which have been available since the Pharaonic dynasties and used for various purposes, second modern conservation materials (traditional) which have been used since the beginning of restoration of archeological finds.

Chapter IV: Conservation of pottery and ceramic

Documentation must be carried out before, during and after conservation cleaning is removing of foreign materials from various sources including air pollutants, as well as materials earlier restorations. Removing particles from the surface is a physio-chemical process between the body and detergent and therefore restorer must use caution during cleaning the surface depending on chemical interact of solutions and solvents with the surface to remove them

Chapter V: The experimental study

Different experiences were carried out during the study has been used in the first part of the experimental samples dedicated to the study at Arizona state museum, the samples in the museum since the fifties of last century and it refers to different periods from pre-dynastic up to the Coptic period , 11 samples were selected as following, some of the pre-dynastic period in samples (1-4) and some of the Middle Kingdom (5) and the era of the New Kingdom (5-9) or samples belonging to the Coptic period are (10-11). Several tests had conducted of the salts test, desalination before application of polymers. Ten polymers were applied on pottery sherds, microscope and UV used for diagnosis and evaluation of application and after removal.

Chapter VI: the applied study

1 – Arizona state museum; Arizona state museum has a small number of Egyptian pottery objects referring to pre-dynastic period seven objects refer to predynastic were selected the objects are black topped pottery and red on buff pottery , these objects had salt crusts , dirt's , one of these objects were restored before Cellulose Nitrate, microscopic investigations were done in addition to UV examination during restoration.

2 - Pottery at the Museum of Arizona ; this museum contains a wide range exceed 20,000 pottery dates back mostly to the area of the southwestern United States and which was inhabited by Americans - Indian natives since before 1000 A.C, a survey project has begun to work to study the case of such a large number of pottery 10 years ago and finished the project on the study ended in 2008, after the completion of this project started a new project to re-treatment the group's most deteriorated and less stable, a number of 700 pieces Pottery will be treated over two years 2010-2012 and during the study from January 2011 until September 2011 was the restoration has been done and participate in the restoration of more than 200 pieces with the team concerned the restoration of pottery which have different deterioration phenomenon and conservation process.

3 - Ceramics from the Italian – Egyptian center of the restoration ; a ceramic dish was restored and completed with proper materials .

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