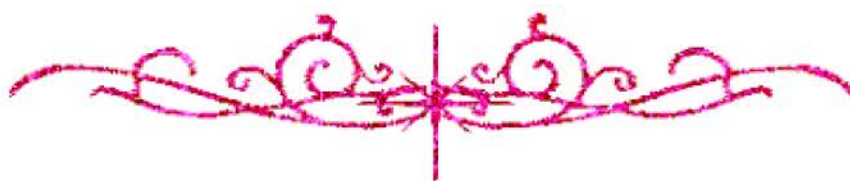


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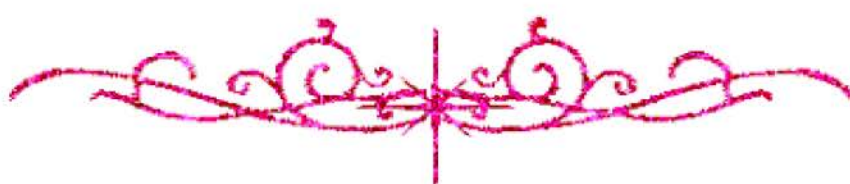
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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

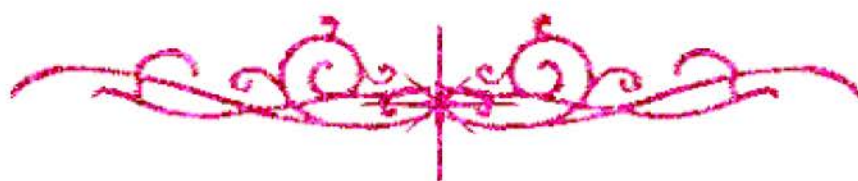
قسم

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علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



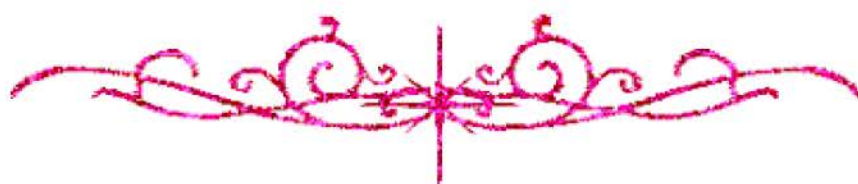
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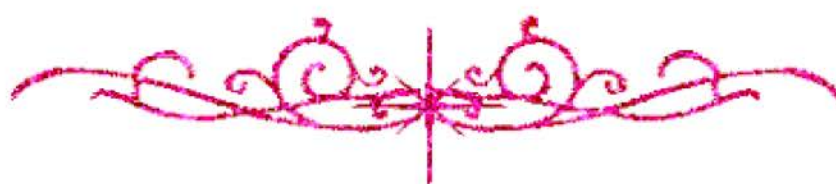
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شبكة المعلومات الجامعية



بالرسالة صفحات لم ترد بالأصل



Organic compounds as modifiers in Portland cement hydration

Thesis

Submitted in partial fulfilment of the
requirements for the degree of M.Sc.
(Chemistry)

BY

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قالوا سبحانك لا علم لنا إلا ما علمتنا
إنك أنت العزيز الحكيم

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ARABIC SUMMARY

CHAPTER 1

INTRODUCTION AND OBJECT OF

INVESTIGATION

CHAPTER 1

Introduction And Object Of Investigation

1.1. Introductory Notes:

The name Portland cement is given originally due to the resemblance of set cement to Portland stone (England). In its broadest sense, the word cement denotes any kind of binding agent. This definition includes a wide variety of substances having little in common with one another but their adhesiveness. However, materials most commonly associated with this word are hydraulic cement of which Portland cement is the most familiar. Hydraulic cement when mixed with enough water to form a plastic mass (paste), the mixture starts to set, loses its plasticity and becomes hard. The paste continues to harden and properties of the hardened concrete such as strength, volume stability and permeability to water, are mainly determined by the properties of the hydration products in cement paste.

Portland cement is manufactured by intimately mixing a calcareous (rich in lime, like limestone) and an argillaceous (rich in silica and alumina such as clay) materials which can be done either in water or in dry condition, i.e. using "Wet" or "Dry" processes. Mixed and ground raw mixture is burned in a rotary kiln at a temperature up to 1450°C . The product of the rotary kiln called cement clinker, which is cooled, mixed with a few percent of gypsum and ground to a very fine powder.