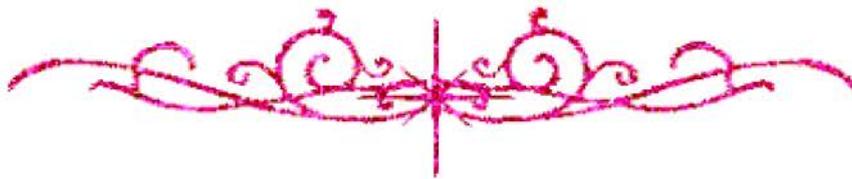
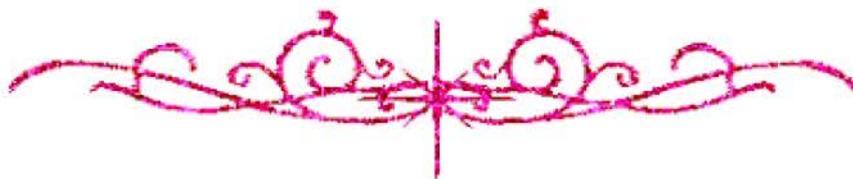


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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



# جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

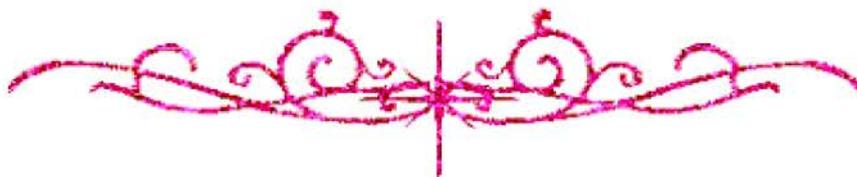
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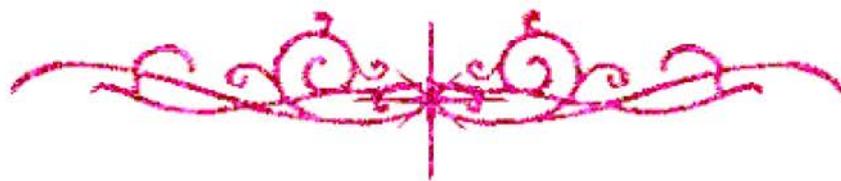


# بعض الوثائق الأصلية تالفة





# بالرسالة صفحات لم ترد بالأصل



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# PRODUCTION OF MICROBIAL ALGINATE

THESIS

Submitted to the Faculty of Science  
Alexandria University

*BY*

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B.Sc. In Special Microbiology (1988)

*FOR*

The Degree of **MASTER OF SCIENCE**  
In **MICROBIOLOGY** From Alexandria University

*Under The Supervision of*

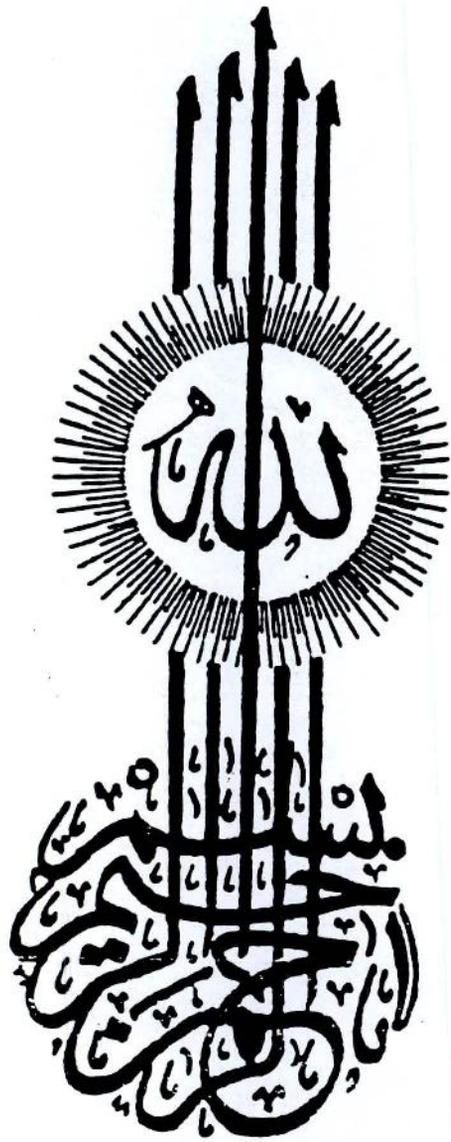
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قَالُوا

# سُبْحَانَكَ

لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا  
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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ARABIC SUMMARY

This thesis has not been previously submitted for a degree at this or any other university and it is the original work of the writer.

Waek Sabra

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## Preface and Objectives

Exopolysaccharides, produced by a wide variety of microorganisms, are water soluble gums which have novel and unique physical properties. Because of their wide diversity in structure and physical properties microbial exopolysaccharides have found a wide range of applications in the food, pharmaceutical and other industries. Some of these applications include their use as emulsifiers, stabilizers, binders, gelling agents, coagulants, lubricants, film formers, thickening and suspending agents.

These biopolymers are rapidly emerging as a new and industrially important source of polymeric materials which are gradually becoming economically competitive with natural gums produced from marine algae and other plants.

The potential use of genetically modified microorganisms under controlled fermentation conditions may result in the production of new exopolysaccharides having novel superior properties which will open up new areas of industrial applications and thus increase their demand.

Alginate is one of the most important polysaccharides which is used widely in research as a gelling agent to immobilize a wide variety of cells. Alginate has ion-exchange properties similar to ion-exchange resins. Although most of the commercial alginate produced today is derived primarily from the sea kelp Macrocystis