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ACTIVITIES OF CERTAIN MICROORGANISMS

THESIS

SUBMITTED

In Partial Fulfilment for the Requirements of the Degree of Master of Science In (MICROBIOLOGY)

BY

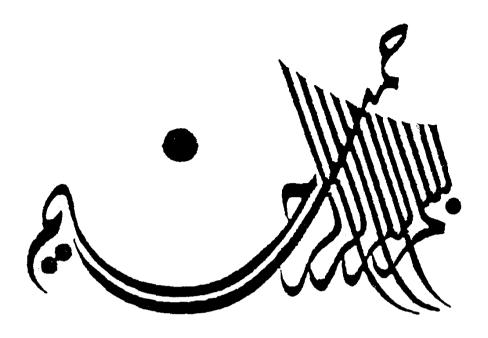
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| This thesis has not been previously submitted for any degree at this or any other University. |  |
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| Signed  |  |
| Khaled Zakaria El-Baghdady  |  |
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To My Parents and Wife

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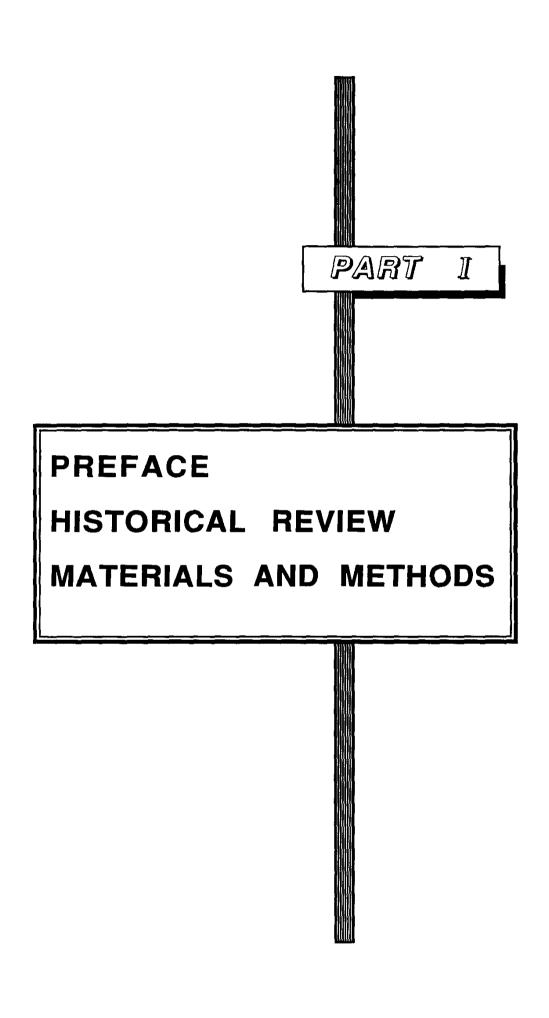
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#### **Preface**

Garlic (Allium sativum) is a common plant widely used all over the world. It has a long history of use as spice, food and popular remedy, being mentioned more than twenty centuries ago in ancient Chinese medical literature. Similarly, ancient Egyptians used garlic in the treatment of many diseases since several centuries ago.

Recently, the medical importance of garlic has increased especially during the last decade. It has been reported that garlic possesses anti-infectious (Tasi et al., 1985; Adetumbi and Lau, 1986; Didry et al., 1987; Yoshida et al., 1987 and Norris et al., 1991), anticarcinogenic (Hayes et al., 1987), hypolipidaemic (Lau et al., 1983), hypoglycemic (Chang and Jonson, 1980), antithrombotic (Ali and Mohammed, 1986; Block et al., 1986; Jain and Apitz-Castro, 1987; Wagner et al., 1987), antihypertensive (Malik and Siddiqui, 1981 and Ruffin and Hunter, 1983) and antiatherosclerotic (Lau et al., 1983) properties. Similarly evidence suggests a potential role for garlic in the control of cardiovascular disorders (Dausch and Nixon, 1990).

On the other hand, it is now well documented that garlic extract possesses antiviral, antibacterial and antifungal activity (Appleton and Tansey, 1975; Barone and Tansey, 1977; Formtling and Bulmer, 1978 and Helmstetter *et al.*, 1979).

Therefore, the object of the present investigation was to study the mode of action of garlic extract in the control of both bacteria and/or