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**FABRICATION OF THE ABSORPTION
AIR-CONDITIONING SYSTEM**

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We are proud to our willingness to complete this project which is the first ever and can be treated as the starting point especially in UiTM involving in the Absorption Air-Conditioning studies, Particular in an Air-Conditioning field. Hopefully the starting point will not be the end point also. We hope much that there will be a continues studies and enchanment on this challenging field in future especially in UiTM. This is due to the great scope of career to be developing.

May ALLAH bless all of us

Khairulnizam b. Bahrim

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ABSTRACT

Air-conditioning system is based on the principle of body comfort. This principle has to be considered as the factors that affect body comfort. The operation of the cycle is due to the principle of the absorption heat from ambience and suits the temperature of the body comfort requirement. The refrigeration is used as a module of absorbing the heat. A conventional air condition usually consists of form basic equipment i.e. evaporator, condenser, compressor or generator and expansion valve. The compressor is used in vapor-compression system whilst the generator which is includes an absorber is used in absorption air-conditioning system.

For this project, Lithium bromide / water is used as working fluid based on the characteristic and advantages of the fluid itself. In chapter 3.0, factors for consideration of choosing the working fluid been explained.

Absorption air-conditioning system is used the principle of absorbing the low-pressure vapor into approximate absorbing liquid. Embodied in the absorption process is the conversion of vapor into liquid. All this is explain in chapter 4.0, which discuss the theoretical aspect of the absorption system.

In the analysis of the absorption cycle, which explain in chapter 5.0, consists of the thermodynamics calculation of heat load, enthalpy and temperature of every components in the system. Few assumptions are made to simplify the

CHAPTER

1

1.0 Introduction

Absorption refrigeration is a process that is considerably different from the compression refrigerant process. The absorption process uses heat as the driving force instead of a compressor. When heat is plentiful or economical, or when it is a by-product of some other process, absorption cooling can be attractive.

1.1 History of Refrigeration

Since the beginning of time people have used some means of food preservation. In the beginning, the food was lowered into a well or was stored in caves that have cooler than the surrounding. Then natural ice was used. The ice was cut from rivers during the winter and stored until it was needed during the warmer weather.

When harvesting of natural ice became efficient and plentiful, the icebox was more widely used. However, transporting the ice from the cooler to warmer climates was a problem. Because of this, natural ice was