

STUDY THE IMPACT OF SUMMER AND NON  
SUMMER FOR STUDENTS AT UIN

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FAKULTAS SAINS DAN TEKNOLOGI  
UNIVERSITI MALAYSIA TERENGGANU

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**STUDY THE URINARY OF SMOKER AND NON SMOKER FOR STUDENTS  
AT UMT**

By  
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A thesis submitted in partial fulfillment of  
the requirements for the award of the degree of  
**Bachelor of Applied Science**  
(Physics, Electronic and Instrumentation)

**DEPARTMENT OF PHYSICAL SCIENCES  
FACULTY OF SCIENCE AND TECHNOLOGY  
UNIVERSITI MALAYSIA TERENGGANU  
2009**



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## PENGAKUAN DAN PENGESAHAN LAPORAN PENYELIDIKAN SFZ 4399 A/B

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: study the urinary of smoker and non-smoker for students at UMT oleh Kam Soon Beng, no. matrik: UK13271 telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Fizik sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains Gunaan (Fizik Elektronik & Instrumentasi), Fakulti Sains dan Teknologi, UMT.

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## DECLARATION

I hereby declare that this thesis entitled study the urinary of smoker and non-smoker for students at UMT is the result of my own research except as cited in the references.

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## **STUDY THE URINARY OF SMOKER AND NON SMOKER FOR STUDENTS AT UMT**

### **ABSTRACT**

Approximately 5.5 trillion cigarettes are produced globally each year and are smoked by over 1.1 billion people. In Malaysia, about half of all Malaysia men smoke. Every day about 50 teenagers below the age of 18 start smoking in Malaysia. However, cigarette smoke contains more than 4000 toxic compounds and it can contribute many cancer and disease such as heart disease, stroke and chronic lung disease. The results of numerous studies have confirmed that smoking is a serious risk causes for many diseases. It is because nicotine enters the bloodstream when a smoker inhaled the tobacco smoke. It is then circulated to various body organs. This research is mainly to study the urinary of smoker and non-smoker for male students at UMT. In this study, the urine samples have been examined by the instrument Fourier Transform Infrared (FT-IR) and Ultraviolet-visible spectroscopy. By using this two method is allows the identification of the functional groups or the chemical groups of the sample that used for studies.

## **KAJIAN KENCING PEROKOK DAN BUKAN PEROKOK BAGI PELAJAR DI UMT**

### **ABSTRAK**

Kira-kira 5.5 trilion rokok-rokok adalah dihasilkan secara global setiap tahun dan melebihi 1.1 bilion penduduk adalah perokok. Di Malaysia, kira-kira separuh daripada warganegara lelaki adalah perokok. Setiap hari lebih kurang 50 orang remaja di bawah umur 18 mula merokok di Malaysia. Bagaimanapun, asap rokok mengandungi lebih daripada 4000 sebatian-sebatian toksik dan ia boleh menyumbang banyak penyakit kanser dan penyakit yang lain seperti penyakit jantung, 'stroke' dan penyakit paru-paru. Keputusan-keputusan bagi banyak kajian telah mengesahkan merokok adalah mempunyai risiko besar menyebabkan banyak penyakit-penyakit. Ini adalah sebab nikotin memasuki aliran darah semasa seseorang perokok menyedut asap tembakau. Ia akan mengedarkan kepada organ-organ yang lain. Penyelidikan ini adalah untuk mengkaji kencing perokok dan bukan perokok bag pelajar lelaki di UMT. Dalam kajian ini, sampel air kencing itu telah diperiksa oleh alat Fourier Transform Infrared (FT-IR) dan spektroskopi Ultraviolet-Visible. Dengan menggunakan dua kaedah ini, kumpulan fungsian atau kumpulan kimia bagi sampel yang digunakan dalam kajian dapat dikenalpastikan.