所別：遙測科技碩士學位學程碩士班　　科目：遙測學　共 __2__ 頁　第 __1__ 頁

一、解釋下列名詞 (40%)

　　1. Remote sensing:

　　2. Nadir:

　　3. Blackbody:

　　4. Stefan-Boltzmann law:

　　5. Wien's displacement law:

　　6. Index of refraction:

　　7. Atmosphere windows:

　　8. Lambertian surface:

　　9. Radiance:

　　10. Thermal inertia:

　　11. Inverse-square law:

　　12. Tangential scale distortion:

　　13. Sensitometry:

　　14. Radargrammetric measurement:

　　15. Depression angle:

　　16. Speckle:

　　17. Doppler principle:

　　18. Digital surface models (DSM):

　　19. Digital terrain models (DTM):

　　20. Leaf-area-index (LAI):

參考用

注意：背面有試題

二、(12%) Earth remote sensing system has four major resolutions associated with it. What are they and their definitions?

三、(12%)Speaking of scattering with regard to energy-matter interactions in the atmosphere, there are three types of scattering. What are they? What are their specific characteristics?

四、(10%) It is important to know about emissivity when conducting a thermal infrared remote sensing investigation. What are the important (dominant) factors?

五、(10%) What is the meaning of "geospatial"? Are there any differences in meaning of the terms "features", "objects", and "classes"?

六、(8%)According to the *Stefan-Boltzmann* and *Wien's displacement laws*, what are the total emitted radiation from the sun whose temperature is assumed to be 6,000 K? What is the dominant wavelength? Also answer the questions if the Earth (300K) is considered.

七、(8%) Presume that two unknown surface features in an image or photo, which actually are a forest and a field crop with the plants close-spaced, are measured for their spectral values, and both display quite similar reflectances at three chosen wavelengths. How might these be separated and perhaps even identified? (Hint: think spatially.)