THE HONG KONG POLYTECHNIC UNIVERSITY

DEPARTMENT OF LAND SURVEYING AND GEO-INFORMATICS

Programme	:	04001 MSc /PgD in Geomatics			
Subject Title	:	Spatial Data Acquisition			
Subject Code	:	LSGI522	**Session**	:	Semester 1, 2017/18
Date	:	21 December 2017	**Time**	:	19:00 - 22:00
Time Allowed	:	3 hours	**Subject Examiner(s)**	:	Dr. George Liu (LSGI) Dr. W.B. Xu (LSGI)

This question paper has a total of ___5___ pages.
(Some pages may be intentionally omitted.)

Instructions to Candidates :   This paper has **TWO** sections, Section A and B.

Section A: **Multiple** Choice. Answer **ALL** questions.
Section B: Answer **ALL** questions.

Total marks = 100.

Available from Invigilator :   Nil

DO NOT TURN OVER THE PAGE UNTIL YOU ARE TOLD TO DO SO

Section A: Multiple choice (each question might have more than one correct answer). **Each question 2 marks, total marks 40**.

They are all Multiple Choice questions.

- End of Section A -

…/5

Section B: Answer **ALL** questions.

Question 21

(a)   Outline the advantages and disadvantages of modern LIDAR measurements for vegetation mapping applications.   (10 marks)

(b)   Given the possibilities of LiDAR, briefly discuss why there is (currently) no extant or planned space-borne LiDAR system.   (10 marks)

Question 22

(a)   What is InSAR?   (5 marks)

(b)   How is it used to measure deformation of the surface of the Earth?   (5 marks)

(c)   What advantages does it have over traditional surveying and/or other space-based techniques for measuring deformation? Give at least one specific example.   (10 marks)

Question 23

What are the three segments of GPS and what are their functions? Show how they interact with each other using a diagram.   (20 marks)

- END OF PAPER -