JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF SPATIAL PLANNING

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHEALOR OF ARTS IN SPATIAL PLANNING

SEMESTER 2018/2019 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: PSP 3226

COURSE TITLE: REMOTE SENSING

EXAM VENUE: **STREAM: SPATIAL PLANNING**

DATE: **EXAM SESSION:**

TIME: 2 HOURS

Instructions:

1. **Answer question 1 (compulsory) and ANY other 2 questions.**

2. **Candidates are advised not to write on the question paper.**

3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

INSTRUCTIONS: Answer question ONE and any two questions from section B

Q1.
(a) Describe the properties displayed by electromagnetic energy   [8 marks]
(b) Discuss the basic advantages aerial photography affords over on ground observation
                                                                                    [8 marks]
(d) Examine the elements of aerial photographic interpretation   [8 marks]
(c) Explain the advantages of multispectral scanners over aerial photography [6 marks]

SECTION B
 Q2
a) Using a sketch describe the process through which remote sensing data is acquired
                                                                                    [10 marks]
b) Describe the differences between passive and active sensor systems in monitoring of the earth's surface   [10 marks]
Q3
a) By using a graphical demonstration describe spectral reflectance of vegetation, water, soil
                                                                                    [10 marks]
b) Discuss the interaction of electromagnetic radiation when propagated through the atmosphere   [10 marks]
Q4.
a) Discuss the strengths and weaknesses of space platforms in acquiring of spatial data
                                                                                    [10 marks]
b) Assume a vertical photograph was taken at a flying height of 5000m above sea level using a camera with a 152-mm focal length lens. Determine the photo scale at points A and B, which lie at elevations of 1200 and 1960m respectively   [10 marks]
Q5.
 a) Explain the acquisition of digital data through across track and along track multispectral scanning systems   [10 marks]

 b) Use a diagram to describe the major divisions of the electromagnetic spectrum
                                                                                    [10 marks]
                                    END