MAASAI MARA UNVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER

SCHOOL OF TOURISM AND NATURAL RESOURCE MANAGEMENT
BACHELOR IN ENVIRONMENTAL STUDIES (PLANNING)

COURSE CODE: EPM 304
COURSE TITLE: REMOTE SENSING AND IMAGE INTERPRETATION

DATE: 17TH APRIL, 2018   TIME: 1100 – 1300HRS

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any other **THREE** in section **B.**

This paper consists of 2 printed pages. Please turn over.

SECTION A (25 MARKS)

1. Compare airborne remote sensing systems with spaceborne systems in terms of time of overpass, cost, stability, and FOV **(4 marks)**
2. In aerial photography, the use of color films requires better atmospheric conditions especially low levels of haze. With an explanation, provide two alternative solutions that you would recommend to overcome haze **(2 marks)**
3. Given that we still have spaceborne remote sensing, explain with two (2) points why airborne remote sensing is still a viable option**(2 marks)**
4. Forest fires have been a threat to the Mau Forest Complex. A non-technical person recommends to the Forest Department at the County the use of optical remote sensing to monitor the fires. Discuss why this recommendation may not solve the problem and provide a better solution to the monitoring problem **(5 marks)**
5. With illustrations, differentiate between across-track and along-track remote sensing system. Explain the difference expected in terms of radiometric resolution and the major reason for this differentiation **(4 marks)**
6. Explain briefly what is Forward-Looking Infrared (FLIR) Systems and how different these systems are from the along-track scanning systems **(3 marks)**
7. Describe briefly the different types of geologic structures **(3 marks)**
8. Explain what you understand by stereoscopic photograph **(2 marks)**

SECTION B (45 MARKS)

9. (i) Describe four different film types used in aerial photography, and for each give its application **(10 marks)**
   (ii) Explain how a film as a sensor works in airborne remote sensing **(5 marks)**
10. (i) Discuss at least three advantages and two limitations of using airborne remote sensing systems **(10 marks)**
    (ii) Describe what destructive forces are and the landforms that they create? **(5 marks)**
11. Identify five agents of change in geomorphology and for each agent cite an example of how it acts to influence the landscape development and explain how the agent is involved. **(15 marks)**

12. (i) Explain three ways where the use of remote sensing as can be applied as a tool to in geological applications **(9 marks)**
    (ii) Using a specific case study, discuss in detail the role of remote sensing in monitoring the impacts of urban sprawl **(6 marks)**

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