



**Strathmore**  
UNIVERSITY

**STRATHMORE BUSINESS SCHOOL**

MASTER OF MANAGEMENT IN AGRIBUSINESS

END OF SEMESTER EXAMINATION

**MMA 8301: ADVANCED TECHNOLOGY APPLICATIONS IN AGRIBUSINESS**

**Date:** Friday, 27<sup>th</sup> August 2021

**Time:** 3 Hours

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**Instructions**

1. This examination consists of **FOUR** questions.
2. Answer **QUESTION ONE** and **ANY OTHER TWO** questions.
3. Be clear, concise and direct to the point

**Question 1 (30 Marks)**

Show, through the use of an example, how the following technology trends promote sustainable agriculture and empowers farmers.

- |                             |                   |
|-----------------------------|-------------------|
| i. Cloud Computing          | <b>(10 marks)</b> |
| ii. RFID                    | <b>(10 marks)</b> |
| iii. Big Data and Analytics | <b>(10 marks)</b> |

**Question 2 (20 marks)**

Modern agriculture is an evolving approach with innovations in farming practices that helps in increasing agricultural efficiency and reduce the loss of natural resources. By applying this modern technology, farmers are gaining more profits and able to increase their productivity of yield. Some of the modern techniques like selected variety of hybrid seeds of a single crop; bio-fertilizers and bio-pesticides; technologically advanced equipment and energy subsidies in the form of irrigation water are commonly employed by the farmers. The sensors used to detect moisture in the soil help farmers to create irrigation systems for crops based on soil moisture and temperature. Working in low visibility field conditions like rain, dust and fog is possible with the help of modern technologies. Agricultural robots automate agricultural processes of fruit picking, crop harvesting, soil maintenance, irrigation, ploughing, planting, weeding and others. These robots automate slow and repetitive tasks for farmers to ensure focus on improving overall production yields. Land-augmenting technological changes involve technical, chemical and biological modifications to be introduced in agriculture.

Discuss comprehensively the importance of these modern technologies in agribusiness.

**Question 3 (20 marks)**

Data and information are considered as strategic assets of any agribusiness. Discuss data and information security with the aid of a practical example.

**Question 4 (20 marks)**

Supply Chain Management (SCM) Systems and Customer Relationship Management (CRM) Systems are two important technologies that provide agribusinesses opportunities for competitive advantage. Discuss.