

**UNIVERSITY OF KWAZULU-NATAL**  
**SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES**  
**DISCIPLINE OF CROP SCIENCE**  
**FINAL EXAMINATION: JUNE 2014**  
**SUBJECT, COURSE & CODE: INDUSTRIAL CROP PRODUCTION, AGPS 715**

---

**DURATION: 3 HOURS**

**TOTAL MARKS: 180**

---

**Internal Examiners: Prof. Albert T. and Dr Lembe Magwaza**

**External Examiner: Dr Yacob Beletse**

---

**NOTE: THIS PAPER CONSISTS OF ONE PAGE ONLY.**  
**ANSWER ALL QUESTIONS.**

---

**QUESTION 1 [30]**

- (a) What is an industrial crop? (2)
- (b) Environmental conditions influence crop quality. Use sugarcane as an example to illustrate this point. (18)
- (c) Hormones are important in consideration of industrial crop production. Explain this statement, using relevant examples. (10)

**QUESTION 2 [30]**

Provide an explanation of the usefulness of coffee as an industrial crop, highlighting crop characteristics, environmental requirements, agronomic management, processing and potential products.

**QUESTION 3 [30]**

Provide an explanation of the usefulness of cotton as an industrial crop, highlighting crop characteristics, environmental requirements, agronomic management, processing and potential products.

**QUESTION 4 [30]**

Give a general perspective on natural polymers based materials.

**QUESTION 5 [60]**

- (a) The most important decision for a citrus grower before establishing an orchard is the choice of cultivar to be grown. By using different cultivars and citrus climatic regions as examples, discuss why this choice is important, with emphasis on industrial use of harvested fruit. (30)
- (b) With the improvement of living standard, consumers' perception of fruit quality has changed in recent years and is no longer limited to external appearance, but further extends to internal quality. This increasing demand for internal quality assured in the fresh produce industry contributes to downgrading of many fruit. As a postharvest technologist, discuss in details, how you would decide fruit quality? What value adding options would you use to optimize profitability of a fruit farming operation. (30)