

**FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI**  
**SCHOOL OF AGRICULTURE AND AGRICULTURAL TECHNOLOGY**  
**DEPARTMENT OF CROP SCIENCE AND TECHNOLOGY**  
**2015/2016 HARMATTAN SEMESTER EXAMINATIONS**

**COURSE TITLE:** POST HARVEST PHYSIOLOGY

**COURSE CODE:** CST 513

**TIME ALLOWED:** 3 HOURS

**INSTRUCTION:** ANSWER FIVE QUESTIONS WITH AT LEAST ONE FROM EACH SECTION

**SECTION A**

1. (a) What are climacteric and non-climacteric crops? Give three (3) examples of each.  
(b) Highlight four (4) negative effects of ethylene production in horticultural crops.
2. (a) What is respiration? Highlight the different losses in stored food due to respiration.  
(b) Highlight the positional changes during the development and maturation of horticultural crops.

**SECTION B**

3. (a) Enumerate vividly the environmental factors that influence the keeping quality of harvested food crops.  
(b) Elaborate briefly on any four (4) environmental factors.

**SECTION C**

4. (a) What is packaging? Describe its functions  
(b) Discuss the advantages of standardization of produce pallets.
5. (a) What are the advantages of proper post-harvest cooling? Discuss different methods of cooling fruits and vegetables  
(b) Discuss critically, the role of storage of fruits and vegetables in the development of agriculture in Nigeria

**SECTION D**

6. Enumerate six (6) maturity indices of fruits and vegetables and explain how each of them could play a role as maturity indicator
7. (a) Explain to the Young Farmers' Club (YFC) in your locality, five (5) necessary tools often employed in the harvesting of fruits and vegetables  
(b) Packing and transporting of harvested fruits and vegetables to greenhouses require some skilled techniques. Describe three (3) appropriate containers suitable for this operation.

**SECTION E**

8. (a) What is modified atmosphere packaging?  
(b) Briefly discuss the role of the following gases in modified atmosphere packaging: (i) Oxygen (ii) Carbon-dioxide (iii) Nitrogen
9. (a) Write the chemical formula for ethylene.  
(b) Why is ethylene referred to as the "ageing hormone".  
(c) List five (5) factors upon which the responsiveness of crops to ethylene application depends.