

BSc in Export Agriculture
Third Year Second Semester Examination – December/January 2017/18

Controlled Environment Agriculture (EAG 353 - 2)
Section III – Essay Questions

Instructions:

Answer all questions in the given booklet.

No. of questions : Two (02)

No. of pages : One (01)

Time : One (01) hour

Total marks allocated : 50%

01. Briefly discuss the role of controlled environment agriculture in producing high yield and high quality produce. Take the following areas into consideration when developing the answer.

- Crop selection
- Environment control
- Cultural practices

(100 marks)

02. I. Briefly discuss the importance of controlling temperature in a Controlled Environment Agriculture with examples. (40 marks)

II. A greenhouse dimensions and features are as follows.

- Height is 10 m, length is 25 m, ridge of the green house is 12 m and slope of the roof is 7 m.
- The sidewalls and roofs are made out of single glass and front and back side walls are made out of double glass.
- Heat loss coefficient of single glass is $6.0 \text{ W/m}^2\text{K}$ and double glass is $4.5 \text{ W/m}^2\text{K}$.
- The average outside temperature on cloud days is 10°C .

Calculate the heating requirement for growing tomato plant inside the greenhouse.
(Optimum temperature to grow tomato is 25°C) (60 marks)

[End of Section III]