

B.Tech Even Semester (CBCS) Exam., April—2017

AGRICULTURAL ENGINEERING

(8th Semester)

Course No. : AE-801 (C)

(Fruit and vegetable processing)

Full Marks : 75

Pass Marks : 30

Time : 3 hours

- Note :*
1. Attempt **one** question from each Unit.
 2. Begin each answer in a new page.
 3. Answer parts of a question at a place.
 4. Assume reasonable data wherever required.
 5. The figures in the margin indicate full marks for the questions.

UNIT—I

1. (a) Discuss the primary, secondary and tertiary food processing with the help of an example. 7½
- (b) Describe the working principle of vibratory air screen cleaner with a neat figure. 7½

2. (a) Enumerate the advantages and disadvantages of parboiling and blanching. 7½
- (b) Discuss the constructional details and working principles of pneumatic separator with a neat figure. 7½

UNIT—II

3. (a) What are various principles and techniques in preservation of fruit and vegetable? Discuss in brief any one of the methods. 7½
- (b) With the help of a process flowchart, discuss the processing of CTC black tea and coffee. 7½
4. (a) What are various methods of food freezing? Discuss in brief. 7½
- (b) With the help of a process flowchart, discuss the processing of jam and jelly. 7½

UNIT—III

5. (a) Design a standard grain storage godown for storing 500 tonnes of paddy. The bag dimension was given as 85 cm × 60 cm × 30 cm and can hold 75 kg of paddy. Give the complete floor plan of the structure. Assume other reasonable data wherever necessary, but state them clearly. 10

(3)

- (b) What are the factors to be considered during selection of the location of warehouse? Discuss in brief the stack plan. 5
6. (a) What are the by-products generated in rice mill during processing of paddy-rice? Discuss the methods of rice bran stabilization. 7½
- (b) Discuss in brief the utilization of rice bran and husk. 7½

UNIT—IV

7. (a) Write down the components of seed processing plant layout building. 8
- (b) Explain the seed treatment for better germination of seed. 7
8. What are different storage factors that affect seed germination? 15

UNIT—V

9. (a) Discuss the words seed viability and seed longevity. 5
- (b) Explain the purity determination of seed. What do you understand by vigour test? 10

(4)

10. (a) Describe the basic requirements of packaging materials. Which factors are to be considered for the objective assessment of packaging materials? 7½
- (b) Discuss various components of a package. 7½
