

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-III Examination May 2012

Subject code: 131405

Subject Name: Introduction to Food Processing Technology

Date: 08/05/2012

Time: 02.30 pm – 05.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is psychometric chart? Draw the skeleton of that chart. Explain about Wet bulb temperature, Dry bulb temperature, Dew point temperature, Relative humidity and Absolute humidity **07**
- (b) The temperature of three different food products A, B and C of equal mass are 12, 19 and 28°C respectively. The temperature when A and B are mixed is 16°C and when B and C are mixed is 23°C. What would be the temperature when A and C are mixed. **07**
- Q.2** (a) Discuss the importance of food processing in India. Explain about different types of beverages. Describes the pyramid of food. **07**
- (b) Write the full form of BIS, CFTRI, ICAR, FPO, APEDA, MoFP, PFA **07**
- OR**
- (b) Explain the requirements of spices and condiments. A food is initially at moisture content 80% (d.b.). Calculate the moisture content in wet basis. Convert moisture content of 55% (w.b.) to moisture content dry basis. **07**
- Q.3** (a) Explain the importance of vitamins. Write in detail about different causes of spoilage. **07**
- (b) Define Cleaning, Grading, Sorting and Scalping. What are the benefits of blanching in processing of fruits and vegetables? **07**
- OR**
- Q.3** (a) Calculate the total mass balance and component mass balance for mixing ingredients to make 25kg of beef sausages having a fat content of 30%. Typically beef meat contains protein 18%, fat 12%, and water 68% and beef fat contains 78% fat, 12% water and 5% protein. **07**
- (b) Define the followings **07**
1. filtration
 2. centrifugation
 3. Distillation
 4. Drying
 5. Conduction
 6. Convection
 7. Trimming

- Q.4** (a) List out the various kinds of food materials. Give major composition of cereals, millets, legumes, oil seeds, and spices with their major uses. **07**
(b) What are the benefits of size reduction in food processing industry? **07**
Explain different laws to calculate the energy required during the size reduction of solids in detail.

OR

- Q.4** (a) Discuss present status of food industries in India. Give the importance of oils and fats in food. **07**
(b) Why process control and instrumentation is required in food processing industry. Give examples of any three processes and instrumentation in food processing industry. **07**

- Q.5** (a) Why industrial training is important? Discuss any one project proposal to start small scale food processing industry. **07**
(b) Discuss the purposes of steam table. Define Latent heat, Specific heat, Specific volume and Specific enthalpy of steam. **07**

OR

- Q.5** (a) Give the importance of material handling in food processing. Write down the advantages of glass packaging and flexible film. **07**
(b) Describe milk and milk products and also discuss meat, egg and sea foods **07**
