

B.E. FTBE 3RD YEAR 2<sup>ND</sup> SEMESTER EXAMINATION- 2017

FOOD PROCESS TECHNOLOGY –III

Time: 3hrs

Full Marks: 100

Use Separate Answer Script for each Part

(50 marks for each part)

PART- I (50 Marks)

Answer question 1 and any two from the rest

1. Explain the following 4X5= 20
  - a) Hot and cold pulping of tomato
  - b) Filtration and clarification of fruit juice
  - c) Difficulties in jelly making
  - d) Quality characteristics of fruit for processing
  
2. What is meant by hazard? State with example different types of food hazards. What is HACCP? Explain about sources and prevention of chemical hazards of food. 1.5+3+2+8.5
  
3. a) Discuss fermentation reactions of polyphenols of tea leaf during manufacture of tea.  
b) Explain about climacteric and non climacteric fruits.  
c) Classify the following fruits according to  $C_2H_4$  production—apple, sapota, banana, pomegranate. What is meant by respiratory quotient? 7+5+(2+1)
  
4. Write Short notes on (any 3): (3X5) =15
  - a) Polyphenols of tea leaf and resulting tea
  - b) Factors affecting osmo dehydration of fruits
  - c) Effect of processing on colour of tomato products
  - d) Food Inspector

B.E (FTBE) 3<sup>RD</sup> YEAR, 2<sup>ND</sup> SEMESTER EXAM 2017

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## PART- II (50 MARKS)

USE SEPARATE ANSWER SCRIPT FOR EACH PART

Answer Q5 and any Two from the rest

**Q5. Answer the following:**

- a. Why is 'quality' and not 'authenticity' preferred for herbs and spices? Explain with examples. Cite two examples of herbs and their bioactive components.      2 + 2
- b. Suggest composition of blend in soda fountain blending machine for a fantasy flavor drink. How is the drink carbonated?      2 + 2
- c. Define flavor profile, flavor harmony and flavor dilution. Explain with an example the importance of sequence of perception of flavor components in adjudging flavor profile of a food sample by sensory evaluation.      3 + 2
- d. Arrange for an extended triangle test for a sample of vanilla flavored ice-cream (consider competitor sample has synthetic vanillin) your test sample vs. a commercial sample). Out of 20 tests, how many correct results are expected in a paired comparison test at 1% level of error?      5 + 2

**Q6. Explain the significances of the following (any 5):**

5 × 3 = 15

- a. V/O content
- b. Hedonic scale
- c. Use of propylene glycol in pure vanilla manufacture
- d. Water quality specifications in soft drink manufacture
- e. Generalists in KFOs
- f. Spray drying of orange flavor extract

**Q7. Suggest tests to identify the following (any 5):**

**5 × 3 = 15**

- a. Sandiness in turmeric powder
- b. Silicone oil in garlic oil
- c. Synthetic pineapple essence
- d. Artifacts in steam distilled bay leaf essential oil
- e. Pungency of black pepper oleoresin
- f. Flavor impact compound in a primary flavoring

**Q8. Distinguish between (any 5):**

**5 × 3 = 15**

- a. Quality authentication tests for 'King' and 'Queen' of spices
- b. Ethanolic distillation vs. Molecular distillation of Fennel essential oil
- c. Solvent extract vs. Solvent-free oil extract of Onion
- d. Top notes vs. Bottom notes of Cinnamon bark extract
- e. Enzymatic generation vs. PTC production of Mustard seed flavor
- f. Quality assessment for Red Chili powder vs. Hot-Red Chili powder