53 (FPT 302) PFPP

## 2018

## PRINCIPLE OF FOOD PROCESSING AND PRESERVATION

Paper: FPT 302 (Back)

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions out of Seven given.

 (a) What do you understand by the term "canning"? Enlist and explain the different processing steps involved in canning of fruits and vegetables.

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(b) Calculate the D value of the organism that show 30 survivors from an initial inoculums of 5×10<sup>6</sup> spores after 10 minutes at 250°F.

- Write technical short notes on the following: 5×4
  - (a) Food preservation using sugar and salt
  - (b) Radiation preservation of food
  - (c) Freeze drying
  - (d) Pasteurization.
- 3. (a) With the neat sketch, explain the principles and working of a spray dryer for milk processing.
  - (b) Explain the fermentation process in detail. 10
- 4. (a) Discuss the working principle of Fluidized Bed Dryer (FBD). 8
  - (b) How can you define water activity?

    How water activity is different from moisture content?

    2+3
  - (c) What are the main causes of quality deterioration and spoilage of foods?
  - (d) Write down the principles of food preservation.

- 5. (a) What is dehydration? Explain the chemical changes take place during food dehydration. 2+3
  - (b) What are IM foods? How is their moisture content maintained? 2+3
  - (c) How do sulphur compounds function as preservatives? What are their disadvantages? 3+2
  - (d) Classify foods according to their pH. Explain the significance of this classification.
- 6. (a) Define the term food additives. What should be the characteristics of an ideal food additives? Briefly discuss the various types of food additives.

2+5+8

- (b) Discuss the role of microorganism in preservation of foods. 5
- 7. (a) What is hurdle technology? In what way it preserves food materials? Give some examples. 3+6+3
  - (b) Describe the effect of radiation on microorganisms and insects. 8

- (a) What is detydration ? Explain the chemical charges take place during the cod deliveration.
- (6) What are 1M toods ? How is their ministure content maintained ? 2=0
- (c) How do sulping compounds function as precentation 8 What are their dissoluntaries?
- (d) Classify to de according to their pit.

  Explain the eignificance of this classification.
- (a) Define the complete of addition. What a should be the characteristics of an ideal tood additions of additions to define tood additions.
  - (n) Discuss the role of microorganism in preservation of locks.
- A (a) What is limitly adminious 2 in what
  way it proceeds to distribute characters.

  Storage examples.
- (b) Describe the short of rediction on union organisms and insects.