Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

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M.Tech. (Food Tech.) (2018 Batch) (Sem.–2)

ADVANCED FOOD PROCESSING TECHNOLOGY

Subject Code : MTFT-521-18

M.Code : 76121

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1.Attempt any FIVE questions out of EIGHT questions.
2.Each question carries TWELVE marks.

Q1. a) Classify membrane driven separation processes. Explain the principle and technology of ultrafiltration process. Mention its applications in food processing.

b) Distinguish between ionizing and non-ionizing radiations. Explain different radiation sources that can be used in food irradiation.

Q2. a) Differentiate micro filtration, ultrafiltration, nano filtration and reverse osmosis based on operating pressure, separation range and pore size of membranes.

b) What are the prescribed doses of irradiations for various applications in food preservation? Explain the nutritional and microbiological changes in irradiated foods.

Q3. a) Discuss the important properties of near critical fluids.

b) What is the principle of magnetron? Explain the application of microwave heating in sterilization and finish drying of food.

Q4. Write notes on :

a) Experimental techniques used in NCF extraction

b) Effect of ultrasound on the properties of food

c) Principle and applications of Ohmic heating in food processing

Q5. a) Explain the mechanism of high pressure processing. Elaborate the effect of high pressure on nutritional and microbiological quality of food.

b) Discuss the important processing parameters in pulsed electric field technology. Also explain various process models for liquid food processing using PEF.

Q6. Write notes on :

a) Oscillating magnetic field.

b) Enzymatic inactivation by pulsed electric field.

c) Microbiological and chemical safety of PEF foods.

Q7. a) Write a note on the different chemical and biochemical hurdles used in food processing.

b) Describe the principles and mechanism of nanotechnology in food processing.

Q8. Write notes on mechanism and applications of the following advanced techniques in food processing :

a) High intensity light.

b) Combined microwave vacuum drying.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.