

Reg. No.

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**M.E. / M.TECH. DEGREE EXAMINATIONS, DEC 2019**

First Semester

**BY18103– FOOD PROCESSING AND BIOTECHNOLOGY***(Biotechnology)***(Regulation 2018)****Time: Three Hours****Maximum : 100 Marks**Answer **ALL** questions**PART A - (10 X 2 = 20 Marks)**

	CO	RBT
1. Give the relevance between RH and $a_w$ .	1	AN
2. How is meat tenderized?	1	U
3. Differentiate between food infection and food intoxication.	2	AP
4. Mention the primary sources of microorganisms that are commonly associated with food.	2	R
5. Comment on the importance of screening in food industry.	3	AN
6. Write the types of equipments used in food industry for size reduction.	3	AP
7. List the factors that affect the heat resistance of microorganisms.	3	U
8. What are the different freezing methods used in food industry.	3	R
9. Mention different types of cheese available in the market.	4	AP
10. What commercial fat products are used in food industry.	4	AP

**PART B - (5 X16 = 80 Marks)**

11. (a) Explain various types of food additives and their role in food processing and preservation. **(16)**    1    AP

**(OR)**

- (b) (i) Discuss the role of minerals in human metabolism. **(8)**    1    AP  
(ii) Explain the role of different enzymes in food processing. **(8)**    1    AP
12. (a) (i) Discuss the role of microorganisms in food spoilage. **(8)**    2    U  
(ii) Describe food borne diseases. **(8)**    2    U

**(OR)**

- (b) (i) Discuss the importance of microorganism in fermentation industry. (8) 2 U
- (ii) Explain the intrinsic and extrinsic factors that influences the growth of microorganisms. (8) 2 U
13. (a) (i) Discuss the principles and applications of membrane separation. methods in food industry. (8) 3 AN
- (ii) Elaborate on mixing and emulsifying equipments. (8) 3 AN
- (OR)**
- (b) (i) Describe different sorting methods used in food industry. (8) 3 AN
- (ii) Explain grading parameters and grading methods used in food industry. (8) 3 AN
14. (a) (i) Explain the commercial heat preservation techniques. (8) 3 U
- (ii) Describe preservation of food by irradiation. (8) 3 U
- (OR)**
- (b) (i) Discuss the principles of thermal destruction of microorganisms explaining the term D-value. (8) 3 U
- (ii) Elaborate the factors that affect the quality of frozen food. (8) 3 U
15. (a) Describe the manufacture of chocolate confectionery. (16) 4 AP
- (OR)**
- (b) Discuss the steps involved in the conversion of grape juice into wine. (16) 4 AP