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**Reg. No. :**

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**Question Paper Code: 59901**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Elective

Chemical Engineering

15UCH901- FOOD SCIENCE AND TECHNOLOGY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- How much fats and oils are require for balance diet CO1- R  
(a) 500 g/person/day (b) 60g/person/day (c) 25 g/person/day (d) 15g/person/day
- Indian Institute of Food Processing Technology (IIFPT) situated in CO1- R  
which place of Tamilnadu  
(a) Madurai (b) Chennai (c) Thanjavur (d) Coimbatore
- Protein content in the food is testing using \_\_\_\_ methods CO2- R  
(a) drying (b) kjeldahl (c) pH meter (d) hydrometer
- Carbohydrates and proteins provide about \_\_\_\_ calories per gram. CO2- R  
(a) 5 (b) 4 (c) 2 (d) 6
- Most of the micro organisms grow best at the temperature range of about CO3- R  
.  
(a) 20-40 deg C (b) 16 to 38 deg C (c) 82- 93 deg C (d) 30-35deg C
- Sediment and microorganisms can be removed centrifugally in a \_\_\_\_ CO3- R  
(a) tube (b) clarifier (c) pan (d) box
- Pathogenic and spoilage bacteria are more heat resistant near to --- pH CO4- R  
(a) neutral (b) acidic (c) basic (d) all the above
- Canning of fruits and vegetables are a \_\_\_\_\_ process. CO4- R  
(a) cold (b) heat (c) irradiation (d) microwave

9. \_\_\_\_ is an alcoholic beverage made from fermented grape juice CO5 -R  
 (a) wine (b) beer (c) scotch (d) whisky
10. A complete gelatinization takes place at \_\_\_\_ C CO5- R  
 (a) 880 deg C (b) 770 deg C (c) 850 deg C (d) 950 deg C

PART – B (5 x 2= 10Marks)

11. What is the role of chemical engineers in food industry? CO1- R
12. What are the two major types of food colors? Give an example CO2- R
13. How are fibrous food material disintegrated? CO3- R
14. Explain the process of Fermentation CO4- R
15. What are the steps involved in processing of meat? CO5- R

PART – C (5 x 16= 80Marks)

16. (a) How the food science is sub disciplined and explains the objectives of food science and technology? CO1-U (16)  
 Or
- (b) Discuss about the engineering properties of food and its applications in food industries. CO1-U (16)
17. (a) Discuss in details about various constituents of food industry CO2-U (16)  
 Or
- (b) Classify food additives. Explain the utility and functions of antioxidants and chelating agent as food additives. CO2-U (16)
18. (a) Identify the various unit operations in food industry CO3-U (16)  
 Or
- (b) (i) Elaborate about food preservations by irradiation. CO3-U (8)  
 (ii) Discuss about the safety of irradiated foods. CO3-U (8)
19. (a) Discuss the process of dehydration and concentration of food CO4- U (16)  
 Or
- (b) Write in detail about the design considerations for packaging food products. CO4- U (16)
20. (a) Construct the flow chart for the milk power manufacturing CO5- U (16)  
 Or
- (b) Construct and explain the process flow diagram for beer manufacturing. CO5- U (16)