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**SAINTGITS COLLEGE OF ENGINEERING AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**SIXTH SEMESTER B.TECH DEGREE EXAMINATION (S), AUGUST 2023**

**FOOD TECHNOLOGY**

**(2020 SCHEME)**

**Course Code : 20FTT308**

**Course Name : Comprehensive Course Work**

**Max. Marks :50**

**Duration : 75 Minutes**

**PART A**

**(Answer all questions. Each question carries 1 mark)**

- 1 The most spoilage bacteria grow at \_\_\_\_\_.  
A. Acidic pH B. Neutral pH  
C. Alkaline pH D. All of the above
- 2 Which among the following is a gas producer organism?  
A. *Streptococcus lactis* B. *Lactobacillus fermentum*  
C. *Micrococcus luteus* D. *Clostridium butyricum*
- 3 Which of the following type of spoilage occurs in fresh meat?  
A. Souring B. Greening  
C. Putrefaction D. Moldy
- 4 Which of the following is not a source of probiotics?  
A. Pasteurised milk B. Yoghurt  
C. Fermented milk D. Cheese
- 5 The most spoilage bacteria grow at  
A. Acidic pH B. Alkaline pH  
C. Neutral pH D. All of the above
- 6 Yeast and mould count determination require  
A. Nutrient Agar B. Mac Conkey Agar  
C. Violet Red Bile Agar D. Acidified potato glucose agar
- 7 The heat is transferred by conduction, convection and radiation in  
A. Melting of ice B. Boiler furnaces  
C. Condensation of steam in condenser D. None of these
- 8 Fourier law of heat conduction is applied to  
A. One dimensional flow B. Two dimensional flow  
C. Profile with variable temperature gradient D. All of the above

- 9 Ratio of equilibrium concentrations of solute A in liquid phase and gas phase i.e.  $C_{AL}^*$  and  $C_{Ag}^*$  respectively, is  $\alpha$ .  $\alpha$  is called \_\_\_\_\_
- A. Diffusion coefficient                      B. Distribution coefficient  
C. Mass transfer coefficient                D. None of the mentioned
- 10 The rate of heat transfer is said to be constant if temperature
- A. Decreases                                      B. Increases  
C. Becomes zero                                D. None of the above
- 11 Which of the following reason does NOT affect radiation between two parallel bodies?
- A. Angle of vision                                B. Orientation of surfaces  
C. Emissivity of both                         D. Smoothness and roughness
- 12 All radiations in a black body are
- A. Reflected                                      B. Refracted  
C. Transmitted                                 D. Absorbed
- 13 What is the Glycemic Index of carbohydrates?
- A. It shows which another nutrient it is being ingested with                      B. It shows how quickly a carbohydrate is digested  
C. It shows how quickly a carbohydrate increases the blood sugar level                      D. None of the mentioned
- 14 Which of the following terms refers to the amount of protein absorbed by the body from a food source?
- A. Biological Value                                B. Limiting Value  
C. Reference pattern                             D. None of the mentioned
- 15 Both the human body and many foods are composed mostly of
- A. Protein    B. Water  
C. Carbohydrates                                D. Vitamins
- 16 Which of the following food components does not provide any nutrients?
- A. Milk    B. Fruit juice  
C. Vegetable Soup                                D. Water
- 17 Which among the below solution is used to test the presence of starch in food
- A. Chlorine solution                              B. Iodine solution  
C. Sodium chloride solution                 D. Ammonium chloride solution
- 18 Bread staling is caused by
- A. Retrogradation                                B. Gelatinization  
C. Caramelization                                D. Aggregation
- 19 The combined process of partial drying in a concentrated solution followed by freezing is known as
- A. Concentration freezing                      B. Dehydro freezing  
C. Osmodehydro concentration              D. Osmodehydro freezing
- 20 Cold sterilization refers to the preservation of food by
- A. Refrigeration                                  B. Freezing  
C. Dehydration                                  D. Radiation
- 21 Freezing of food product is achieved by removing the
- A. Sensible heat                                  B. latent heat  
C. Both sensible and latent                    D. None of the these

- 22 The conversion of large globules or coarse particles into fine globules or particles by passing them under high pressure through a narrow orifice is  
 A. Agitation B. Forming  
 C. Homogenisation D. Mixing
- 23 The time that is required to kill a specific population of bacteria at a specific temperature / constant temperature is known as  
 A. F value B. D Value  
 C. Z value D. None of these
- 24 Most common enzyme used as an indicator to determine the effectiveness of blanching  
 A. Catalase B. Peroxidase  
 C. lipoxygenase D. Zymase
- 25 The international organization which provides a setting where governments compare policy experiences, seeks answer to common problem , identify good practice and coordinate domestic and international policies is  
 A. Codex Alimentarius Commission B. The Organization for Economic Cooperation and Development (OECD)  
 C. World Organization of Animal Health (OIE) D. World Trade Organization
- 26 In electrophoresis, the speed of migration of ions in electric field depends upon  
 A. Magnitude of charge and shape of molecule B. Shape and size of molecule  
 C. Magnitude of charge and mass of molecule D. Magnitude of charge shape and mass of molecule
- 27 Where this electrophoresis not used?  
 A. Separation of proteins B. Separation of amino acids  
 C. Separation of Lipids D. Separation of nucleic acids
- 28 Which of the following factors does not influence electrophoretic mobility?  
 A. Molecular weight B. Shape of molecule  
 C. Size of molecule D. Stereochemistry of molecule
- 29 Food Authority may notify laboratories and research institutions accredited by NABL or any such accreditation agencies, wherein NABL stands for  
 A. National Accreditation Board for Laboratories B. National Accreditation Board for Testing Laboratories  
 C. National Accreditation Board for Calibration Laboratories D. National Accreditation Board for Testing and Calibration Laboratories
- 30 Vitamin which is not found in plant derived food products  
 A. Vitamin B1 B. Vitamin B6  
 C. Vitamin B12 D. All the above

### **PART B**

**(Answer all questions. Each question carries 2 marks)**

- 31 In which of the following biochemical types of microorganisms a slime layer or capsule is formed on the cells?  
 A. Acid producers B. Gas producers  
 C. Ropy or stringy fermentation D. Proteolytic

- 32 What is the range of protein content in yeast cells?  
 A. 69% B. 12-15%  
 C. 20-40% D. 40-50%
- 33 40% of incident radiant energy on the surface of a thermally transparent body is reflected back. If the transmissivity of the body be 0.15, then the emissivity of surface is  
 A. 0.45 B. 0.55  
 C. 0.40 D. 0.75
- 34 Thermal conductivity of air at room temperature in kcal/m hr °C is of the order of  
 A. 0.002 B. 0.02  
 C. 0.01 D. 0.1
- 35 Reducing sugars help in the food industry in the following way. Which of the given sentences is untrue?  
 A. They easily dissolve in oil B. They attach themselves to amino acids and form compounds that affect the color, flavor and other properties of food  
 C. The reactive group of long-chain sugar polymers can form a cross-link which forms a basis for edible packaging in the food industry D. None of the mentioned
- 36 Which of the following is true with respect to gelatinization?  
 A. It allows starch to be easily digested B. In this process, on heating, the crystalline structure of starch is lost and gel is formed  
 C. In this process, on cooling, the digestibility of starch in the intestine decreases D. None of the mentioned
- 37 Drying rate curve is plot between  
 A. Critical moisture content and Critical humidity B. Critical moisture content and Drying rate  
 C. Critical humidity and Drying rate D. Moisture content and drying rate
- 38 The rate constant for a reaction in food is  $7M^{-1}s^{-1}$  at  $113^{\circ}C$ . If the activation energy for the reaction be is 600 kJ/mol, calculate the temperature ( $^{\circ}C$ ) at which the rate constant will be  $15M^{-1}s^{-1}$ .  
 A. 217.6 B. 177.6  
 C. 127.6 D. 117.6
- 39 The Karl Fischer reagent consists of  
 A. Iodine, pyridine,  $SO_2$  and methanol B. sodium, pyridine,  $SO_2$  and methanol  
 C. Iodine, pyridine,  $CO_2$  and methanol. D. Iodine, pyridine,  $SO_2$  and ethanol.
- 40 If proteins are separated according to their electrophoretic mobility then the type of electrophoresis is  
 A. SDS PAGE B. Affinity Electrophoresis  
 C. Electro focusing D. Free flow electrophoresis