

FOOD SCIENCE TECHNOLOGY ICAR SEPT 2022

Topic:- 18 FOOD SCIENCE TECHNOLOGY_PG

1) The opacity of an emulsion is determined by_____

[Question ID = 2161][Question Description = 101_139_FST_AUG22_Q01]

1. Droplet size only

[Option ID = 8641]

2. Droplet size and droplet concentration

[Option ID = 8642]

3. Difference in the refractive indices of the two phases

[Option ID = 8643]

4. Droplet size, droplet concentration and difference in the refractive indices of the two phases

[Option ID = 8644]

2) Which of the following can be used to prevent browning of cut fruits and vegetables?[Question ID = 2162][Question Description = 102_139_FST_AUG22_Q02]

1. Water [Option ID = 8645]

2. Sucrose [Option ID = 8646]

3. Ascorbic acid [Option ID = 8647]

4. Enzymes [Option ID = 8648]

3) _____are used as acidulants in soft drink beverages.

[Question ID = 2163][Question Description = 103_139_FST_AUG22_Q03]

1. Citric and phosphoric acid [Option ID = 8649]

2. Acetic and phosphoric acid [Option ID = 8650]

3. Acetic and citric acid [Option ID = 8651]

4. Citric and ascorbic acid [Option ID = 8652]

4) Which of the following statements is TRUE?[Question ID = 2164][Question Description = 104_139_FST_AUG22_Q04]

1. Chelating agents are compounds which form complexes with water [Option ID = 8653]

2. Chelating agents are compounds which form complexes with solvents [Option ID = 8654]

3. Chelating agents are compounds which form complexes with non-metals [Option ID = 8655]

4. Chelating agents are compounds which form complexes with metal ions [Option ID = 8656]

5) Protein Efficiency Ratio (PER) is_____

[Question ID = 2165][Question Description = 105_139_FST_AUG22_Q05]

1. Gain in the body weight per unit of protein intake [Option ID = 8657]

2. Percentage of protein absorbed after digestion [Option ID = 8658]

3. Product of digestibility coefficient and biological value [Option ID = 8659]

4. Percentage of nitrogen retained out of nitrogen absorbed [Option ID = 8660]

6) Vegetable lecithin is obtained mainly from_____

[Question ID = 2166][Question Description = 106_139_FST_AUG22_Q06]

1. Wheat [Option ID = 8661]

2. Soyabean [Option ID = 8662]

3. Rice [Option ID = 8663]

4. Maize [Option ID = 8664]

7) Which of the following is not a function of amino acids (from protein digestion) in the body?[Question ID = 2167]

[Question Description = 107_139_FST_AUG22_Q07]

1. Energy production [Option ID = 8665]

2. Regulation of body processes [Option ID = 8666]

3. Growth of body tissues [Option ID = 8667]

4. Maintenance and repair of body tissues [Option ID = 8668]

8) Which of the following is correctly matched?[Question ID = 2168][Question Description = 108_139_FST_AUG22_Q08]

1. Globulins - Conjugated proteins [Option ID = 8669]
2. Homopolysaccharides - Cellulose [Option ID = 8670]
3. Phospholipids - Simple lipids [Option ID = 8671]
4. Stearic acid - Unsaturated fatty acid [Option ID = 8672]

9) Match List I with List II

List I	List II
A. Simple Protein	I. Breakdown of glucose
B. Glycogenesis	II. Albumins
C. Glycolysis	III. Saponification
D. Fat	IV. Formation of glycogen

Choose the correct answer from the options given below:

[Question ID = 2169][Question Description = 109_139_FST_AUG22_Q09]

1. A-I, B-III, C-IV, D-II [Option ID = 8673]
2. A-II, B-IV, C-I, D-III [Option ID = 8674]
3. A-II, B-III, C-I, D-IV [Option ID = 8675]
4. A-IV, B-III, C-I, D-II [Option ID = 8676]

10) Which of the following is the correct grouping of disaccharides?[Question ID = 2170][Question Description = 110_139_FST_AUG22_Q10]

1. Glucose, fructose, sucrose [Option ID = 8677]
2. Lactose, cellulose, mannose [Option ID = 8678]
3. Lactose, sucrose, maltose [Option ID = 8679]
4. Glucose, sucrose, cellulose [Option ID = 8680]

11) Beta-oxidation occurs in_____

[Question ID = 2171][Question Description = 111_139_FST_AUG22_Q11]

1. Proteins [Option ID = 8681]
2. Lipids [Option ID = 8682]
3. Carbohydrates [Option ID = 8683]
4. Amino acids [Option ID = 8684]

12) Which of the following statement is correct about gas chromatography?[Question ID = 2172][Question Description = 112_139_FST_AUG22_Q12]

1. Separation of components in the mixture is on the basis of their charge [Option ID = 8685]
2. Separation of components in the mixture is on basis of difference in their partitioning behavior [Option ID = 8686]
3. Separation of components in the mixture is on the basis of their molecular geometry [Option ID = 8687]
4. Separation of components in the mixture is on the basis of their size [Option ID = 8688]

13) Which of the following compound is commonly used as a flavor enhancer in cooking?[Question ID = 2173][Question Description = 113_139_FST_AUG22_Q13]

1. Carboxymethyl cellulose [Option ID = 8689]
2. Monosodium glutamate [Option ID = 8690]
3. Gum arabic [Option ID = 8691]
4. Sodium alginate [Option ID = 8692]

14) Which type of wheat is better for biscuit production?[Question ID = 2174][Question Description = 114_139_FST_AUG22_Q14]

1. Soft Wheat [Option ID = 8693]
2. Hard Wheat [Option ID = 8694]
3. Old Wheat [Option ID = 8695]
4. Fresh Wheat [Option ID = 8696]

15) The relationship between the Del factor, temperature and time is given as_____

[Question ID = 2175][Question Description = 115_139_FST_AUG22_Q15]

1. $\Delta = 1/(A.t. e^{-E/RT})$ [Option ID = 8697]
2. $\Delta = A.t. e^{-E/RT}$ [Option ID = 8698]
3. $\Delta = A.t. e^{E/RT}$ [Option ID = 8699]
4. $\Delta = A.t.T$ [Option ID = 8700]

16) Henry's law relates to _____

[Question ID = 2176][Question Description = 116_139_FST_AUG22_Q16]

1. The partial pressure of oxygen and the saturation concentration of oxygen in the liquid [Option ID = 8701]
2. The oxygen transfer rate and the bubble size [Option ID = 8702]
3. The oxygen transfer rate and the temperature [Option ID = 8703]
4. The oxygen transfer rate to the partial pressure of oxygen in the liquid [Option ID = 8704]

17) The process of preserving food by rapid freezing followed by dehydration under vacuum is known as _____ [Question ID = 2177][Question Description = 117_139_FST_AUG22_Q17]

1. Sterilization [Option ID = 8705]
2. Pasteurization [Option ID = 8706]
3. Lyophilization [Option ID = 8707]
4. Dehydration [Option ID = 8708]

18) Raoult's law is applicable to the _____

[Question ID = 2178][Question Description = 118_139_FST_AUG22_Q18]

1. Ideal solutions [Option ID = 8709]
2. Real solutions [Option ID = 8710]
3. Mixture of water and alcohol [Option ID = 8711]
4. Non-ideal gases [Option ID = 8712]

19) Which of the following equipment is used for the measurement of specific heat? [Question ID = 2179][Question Description = 119_139_FST_AUG22_Q19]

1. Hygrometer [Option ID = 8713]
2. Thermometer [Option ID = 8714]
3. Calorimeter [Option ID = 8715]
4. Manometer [Option ID = 8716]

20) The unit of thermal diffusivity is _____

[Question ID = 2180][Question Description = 120_139_FST_AUG22_Q20]

1. W/m^2 [Option ID = 8717]
2. kJ/kgK [Option ID = 8718]
3. m^2/s [Option ID = 8719]
4. W/mK [Option ID = 8720]

21) The number may usually be ignored in baffled mixing vessels. [Question ID = 2181][Question Description = 121_139_FST_AUG22_Q21]

1. Reynold's [Option ID = 8721]
2. Froude's [Option ID = 8722]
3. Nusselt's [Option ID = 8723]
4. Prandtl's [Option ID = 8724]

22) law propose that the final particle size to be the one for which 80 per cent of the product passes through 100 micron size sieve.

[Question ID = 2182][Question Description = 122_139_FST_AUG22_Q22]

1. Fick's [Option ID = 8725]
2. Kick's [Option ID = 8726]
3. Rittinger's [Option ID = 8727]
4. Bond's [Option ID = 8728]

23) In unsteady heat transfer, number is defined as internal resistance to heat transfer by conduction divided by the surface resistance to heat transfer. [Question ID = 2183][Question Description = 123_139_FST_AUG22_Q23]

1. Biot [Option ID = 8729]
2. Fourier [Option ID = 8730]
3. Prandtl [Option ID = 8731]
4. Reynold [Option ID = 8732]

24) In convection SI unit of heat transfer coefficient is [Question ID = 2184][Question Description = 124_139_FST_AUG22_Q24]

1. $Kcal/hr m^2C$ [Option ID = 8733]
2. W/m^2C [Option ID = 8734]
3. $W/m C$ [Option ID = 8735]
4. $Kcal /hr$ [Option ID = 8736]

25) The wet bulb lines are always with constant enthalpy lines. [Question ID = 2185][Question Description =

125_139_FST_AUG22_Q25]

1. Coincide [Option ID = 8737]
2. Non coincide [Option ID = 8738]
3. Inclined [Option ID = 8739]
4. Declined [Option ID = 8740]

26) The..... is used to remove emulsions, colloids or macro molecules in the range of 0.1 μm to 5 nm.

[Question ID = 2186][Question Description = 126_139_FST_AUG22_Q26]

1. Ultrafiltration [Option ID = 8741]
2. Nanofiltration [Option ID = 8742]
3. Microfiltration [Option ID = 8743]
4. Reverse osmosis [Option ID = 8744]

27) material is used for the manufacture of membranes in microfiltration, ultra filtration and Nanofiltration.

[Question ID = 2187][Question Description = 127_139_FST_AUG22_Q27]

1. Polyethersulfone [Option ID = 8745]
2. Alumine [Option ID = 8746]
3. Cellulose nitrate [Option ID = 8747]
4. Polypropylene [Option ID = 8748]

28) The law is useful in developing a relationship between the flux through membrane and the pressure differential across it.[Question ID = 2188][Question Description = 128_139_FST_AUG22_Q28]

1. Hagen-Poiseville [Option ID = 8749]
2. Boyle's [Option ID = 8750]
3. Rittenger's [Option ID = 8751]
4. Van't Hoff [Option ID = 8752]

29) If the DRT for *C.botulinum* at 121°C is 0.25, then for 12 D process, the time required for heating at 121°C isminute.

[Question ID = 2189][Question Description = 129_139_FST_AUG22_Q29]

1. 2 [Option ID = 8753]
2. 3 [Option ID = 8754]
3. 4 [Option ID = 8755]
4. 1 [Option ID = 8756]

30) Which of the following is a the Bingham plastic fluid?

[Question ID = 2190][Question Description = 130_139_FST_AUG22_Q30]

1. Water
[Option ID = 8757]
2. Corn flour
[Option ID = 8758]
3. Starch Suspension
[Option ID = 8759]
4. Toothpaste
[Option ID = 8760]

31) The..... sterilizer is used for sterilization of canned milk.[Question ID = 2191][Question Description = 131_139_FST_AUG22_Q31]

1. Orbitort [Option ID = 8761]
2. Hydrolock [Option ID = 8762]
3. Ekelund hot air [Option ID = 8763]
4. Hydrostatic [Option ID = 8764]

32) Which boiling mounting is used to extinguish the fire in the event of water level in the boiler shell falls below a certain limit?[Question ID = 2192][Question Description = 132_139_FST_AUG22_Q32]

1. Blow off cock valve [Option ID = 8765]
2. Safety valve [Option ID = 8766]
3. Fusible plug [Option ID = 8767]
4. Spring loaded safety valve [Option ID = 8768]

33) In crystallization, the is defined as the region between the solubility and super solubility lines.

[Question ID = 2193][Question Description = 133_139_FST_AUG22_Q33]

1. Metastable zone width [Option ID = 8769]
2. Metastable zone [Option ID = 8770]
3. Metastable region [Option ID = 8771]
4. Labile region [Option ID = 8772]

34) The cut of moisture content between constant rate and falling rate of drying is called as[Question ID = 2194]

[Question Description = 134_139_FST_AUG22_Q34]

1. Equilibrium moisture content [Option ID = 8773]
2. Critical moisture content [Option ID = 8774]
3. Entropic moisture content [Option ID = 8775]
4. Cut-off moisture content [Option ID = 8776]

35) In controlling instruments..... is the instrument's ability to establish the desired value of the variable being controlled.[Question ID = 2195][Question Description = 135_139_FST_AUG22_Q35]

1. Reproducibility [Option ID = 8777]
2. Accuracy [Option ID = 8778]
3. Sensitivity [Option ID = 8779]
4. Responsiveness [Option ID = 8780]

36) The commonly used filter aid is.....

[Question ID = 2196][Question Description = 136_139_FST_AUG22_Q36]

1. Cellulose acetate

[Option ID = 8781]

2. Solid cake

[Option ID = 8782]

3. Kieselguhr

[Option ID = 8783]

4. Glass fiber

[Option ID = 8784]

37) of refrigerator is the ratio of heat extracted to the work done to produce the refrigeration effect[Question ID = 2197][Question Description = 137_139_FST_AUG22_Q37]

1. Power [Option ID = 8785]
2. Energy [Option ID = 8786]
3. COP [Option ID = 8787]
4. Efficiency [Option ID = 8788]

38) The principal example of the use of is in the production of ice-cream and margarine.[Question ID = 2198]

[Question Description = 138_139_FST_AUG22_Q38]

1. Plate freezer [Option ID = 8789]
2. Air blast freezer [Option ID = 8790]
3. Scraped surface freezer [Option ID = 8791]
4. Fluidized bed freezer [Option ID = 8792]

39) In most mass transfer operations..... flow is desired to increase the rate of transfer per unit area.[Question ID = 2199][Question Description = 139_139_FST_AUG22_Q39]

1. Laminar [Option ID = 8793]
2. Turbulent [Option ID = 8794]
3. Transitional [Option ID = 8795]
4. Streamline [Option ID = 8796]

40) The process where two crystals that are in a point of contact, join together into one crystal is called as recrystallization.[Question ID = 2200][Question Description = 140_139_FST_AUG22_Q40]

1. Iso-mass [Option ID = 8797]
2. Surface Iso-mass [Option ID = 8798]
3. Accretive [Option ID = 8799]
4. Migratory [Option ID = 8800]

41) The cation exchange ability of is exploited to remove the dissolved salts in the form of sulphates and chlorides.[Question ID = 2201][Question Description = 141_139_FST_AUG22_Q41]

1. Activated Silica [Option ID = 8801]
2. Chlorine [Option ID = 8802]
3. Zeolites [Option ID = 8803]
4. Sodium Hexametaphosphate [Option ID = 8804]

42) In a evaporator, the circulation of liquid occurs with the central down comer.[Question ID = 2202][Question Description = 142_139_FST_AUG22_Q42]

1. Horizontal tube [Option ID = 8805]
2. Vertical tube [Option ID = 8806]
3. Thin Film [Option ID = 8807]
4. Multiple effect [Option ID = 8808]

43) What is cellophane?[Question ID = 2203][Question Description = 143_139_FST_AUG22_Q43]

1. Regenerated cellulose [Option ID = 8809]
2. Cellulose combined with ethane [Option ID = 8810]
3. Cellulose combined with methane [Option ID = 8811]
4. Carboxy methyl cellulose [Option ID = 8812]

44) Tomato juice containing 7% solids by mass is feed to an evaporator and water is removed at a rate of 500 kg /hr. What should be the necessary feed rate to obtain concentrate with 35% solids?[Question ID = 2204][Question Description = 144_139_FST_AUG22_Q44]

1. 6250kg/hr [Option ID = 8813]
2. 62.5kg/hr [Option ID = 8814]
3. 6.25kg/hr [Option ID = 8815]
4. 625 kg/hr [Option ID = 8816]

45) The value is defined as the number of minutes required to destroy a stated number of organisms with a specific Z value at a defined temperature usually 121°C.[Question ID = 2205][Question Description = 145_139_FST_AUG22_Q45]

1. F [Option ID = 8817]
2. Z [Option ID = 8818]
3. D [Option ID = 8819]
4. T [Option ID = 8820]

46) Enzyme involved in conversion of sucrose into glucose and fructose is.....[Question ID = 2206][Question Description = 146_139_FST_AUG22_Q46]

1. Maltase [Option ID = 8821]
2. Zymase [Option ID = 8822]
3. Invertase [Option ID = 8823]
4. Diastase [Option ID = 8824]

47) Thermal destruction of microorganisms follows kinetics of.....[Question ID = 2207][Question Description = 147_139_FST_AUG22_Q47]

1. Zero order [Option ID = 8825]
2. First order [Option ID = 8826]
3. Second order [Option ID = 8827]
4. Fractional order [Option ID = 8828]

48) The brown colour of bread crust during baking is due to Maillard reaction between.....and.....[Question ID = 2208][Question Description = 148_139_FST_AUG22_Q48]

1. Aldehyde groups of sugars and amino groups of proteins [Option ID = 8829]
2. Aldehyde groups of sugars and vitamins [Option ID = 8830]
3. Aldehyde groups of sugars and salt [Option ID = 8831]
4. Starch and yeast [Option ID = 8832]

49) Calculate the total mass balance for mixing ingredients to make 25 kg of beef sausages having a fat content of 30%, using fresh beef meat and beef fat. Typically, beef meat contains 18% protein, 12% fat and 68% water and beef fat contains 78% fat, 12% water and 5% protein.[Question ID = 2209][Question Description = 149_139_FST_AUG22_Q49]

1. 6.82 kg [Option ID = 8833]
2. 18.18 kg [Option ID = 8834]
3. 72.82 kg [Option ID = 8835]
4. 80.72 kg [Option ID = 8836]

50) A yellowish green tint to the whey is due to.....[Question ID = 2210][Question Description = 150_139_FST_AUG22_Q50]

1. Cholesterol [Option ID = 8837]
2. Lactoflavin [Option ID = 8838]
3. Carotene [Option ID = 8839]
4. Lecithin [Option ID = 8840]

51) The aseptic processing of milk is typically conducted at.....and it works on the preservation mechanism of

[Question ID = 2211][Question Description = 151_139_FST_AUG22_Q51]

1. 138 °C/2-3 sec, inactivation & restriction of microorganism [Option ID = 8841]
2. 138 °C/2-3 sec, inhibition of microbial growth & restriction of microorganism [Option ID = 8842]
3. 72 °C/15 sec, inactivation & restriction of microorganism [Option ID = 8843]
4. 72 °C/15 sec, inhibition of microbial growth & restriction of microorganism [Option ID = 8844]

52) In milling quality analysis, total yield implies.....[Question ID = 2212][Question Description = 152_139_FST_AUG22_Q52]

1. % brown rice received from clean paddy [Option ID = 8845]
2. % milled rice received from clean paddy [Option ID = 8846]
3. % head rice received from clean paddy [Option ID = 8847]
4. % broken rice received from clean paddy [Option ID = 8848]

53) In case of processing of meat, the tumbling operation is conducted at lower temperature (0-4 °C) because at this temperature range.....[Question ID = 2213][Question Description = 153_139_FST_AUG22_Q53]

1. The solubility of myosin is maximum. [Option ID = 8849]
2. The bacterial growth is prevented. [Option ID = 8850]
3. Lower the speed of curing [Option ID = 8851]
4. Both (1) and (2) [Option ID = 8852]

54) Which of the following type of maize is the commonly grown in the World?[Question ID = 2214][Question Description = 154_139_FST_AUG22_Q54]

1. Flint [Option ID = 8853]
2. Dent [Option ID = 8854]
3. Flourey [Option ID = 8855]
4. Pop [Option ID = 8856]

55) Which of the following is NOT true with regards to gelatinization?

[Question ID = 2215][Question Description = 155_139_FST_AUG22_Q55]

1. Increased in permeability to water and dissolved substances [Option ID = 8857]
2. Increased leaching of starch components [Option ID = 8858]
3. Decreased susceptibility to enzymatic digestion [Option ID = 8859]
4. Increased viscosity of the aqueous suspension [Option ID = 8860]

56) Which of the following pigment majorly contributes for yellowness in wheat flour?[Question ID = 2216][Question Description = 156_139_FST_AUG22_Q56]

1. Carotenoids [Option ID = 8861]
2. Flavonoids [Option ID = 8862]
3. Anthocyanins [Option ID = 8863]
4. Xanthophyll [Option ID = 8864]

57) The FAO/IAEO/WHO Joint Expert Committee on wholesomeness of irradiated food permitted an overall average radiation dose..... in food commodities.[Question ID = 2217][Question Description = 157_139_FST_AUG22_Q57]

1. 10 Gy [Option ID = 8865]
2. 1 kGy [Option ID = 8866]
3. 1 Gy [Option ID = 8867]
4. 10 kGy [Option ID = 8868]

58) is the most widely used fumigant for grain disinfestation in the world.[Question ID = 2218][Question Description = 158_139_FST_AUG22_Q58]

1. Methyl bromide [Option ID = 8869]
2. Hydrogen peroxide [Option ID = 8870]
3. Phosphine [Option ID = 8871]
4. Formaldehyde [Option ID = 8872]

59) By using a Pearson Square method, calculate the amounts of orange juice (10 % sugar content) and sugar syrup (60 % sugar content) needed to produce 50 kg of fruit squash containing 15 % sugar.[Question ID = 2219][Question Description = 159_139_FST_AUG22_Q59]

1. 5 Kg of orange juice & 45 Kg of Sugar Syrup [Option ID = 8873]
2. 45 Kg of orange juice & 5 Kg of Sugar Syrup [Option ID = 8874]
3. 40 Kg of orange juice & 10 Kg of Sugar Syrup [Option ID = 8875]
4. 10 Kg of orange juice & 40 Kg of Sugar Syrup [Option ID = 8876]

60) Match the character in List I with respect to the spice given in List II.

List I	List II
A. Hot spices	I. Cinnamon
B. Mild Spices	II. Bay
C. Aromatic Spices	III. Coriander
D. Herbs	IV. Black Pepper

Choose the correct answer from the options given below:

[Question ID = 2220][Question Description = 160_139_FST_AUG22_Q60]

1. A-IV, B-III, C-I, D-II [Option ID = 8877]
2. A-II, B-III, C-I, D-IV [Option ID = 8878]
3. A-IV, C-I, C-III, D-II [Option ID = 8879]
4. A-II, B-I, C-III, D-IV [Option ID = 8880]

61) value is defined as the increase in temperature necessary to cause a 90% reduction in the decimal reduction time.[Question ID = 2221][Question Description = 161_139_FST_AUG22_Q61]

1. D Value [Option ID = 8881]
2. F Value [Option ID = 8882]
3. Z Value [Option ID = 8883]
4. K Value [Option ID = 8884]

62) are more frequently used in high pressure, low capacity applications and can handle highly viscous liquids.[Question ID = 2222][Question Description = 162_139_FST_AUG22_Q62]

1. Centrifugal pumps [Option ID = 8885]
2. Diaphragm pump [Option ID = 8886]
3. Progressing cavity pumps [Option ID = 8887]
4. Positive displacement pumps [Option ID = 8888]

63) Which packaging material that is used to create a localised high temperature in microwave ovens; usually made from lightly metallised polyethylene terephthalate?[Question ID = 2223][Question Description = 163_139_FST_AUG22_Q63]

1. PVC [Option ID = 8889]
2. HDPE [Option ID = 8890]
3. Polyimides [Option ID = 8891]
4. Susceptor [Option ID = 8892]

64) Match the toxic compound in List I with respect to their plant source given in List II.

List I	List II
A. BOAA	I. Fava beans
B. Glucosinolates	II. Cotton seeds
C. Vicine	III. Khesari Dahl (<i>Lathyrus sativus</i>)
D. Gossypol	IV. Rapeseeds

Choose the correct answer from the options given below:

[Question ID = 2224][Question Description = 164_139_FST_AUG22_Q64]

1. A-II, B-III, C-IV, D-I [Option ID = 8893]
2. A-II, B-IV, C-III, D-I [Option ID = 8894]
3. A-III, B-IV, C-I, D-II [Option ID = 8895]
4. A-IV, B-I, C-II, D-III [Option ID = 8896]

65) Which of the following packaging material provides approximately five times more barrier to CO₂, O₂, and water vapour than PET?

[Question ID = 2225][Question Description = 165_139_FST_AUG22_Q65]

1. PVC
[Option ID = 8897]
2. PEN
[Option ID = 8898]
3. PS

[Option ID = 8899]

4. PVDC

[Option ID = 8900]

66) Cereal starches usually contain _____ amylose and _____ amylopectin.[Question ID = 2226][Question Description = 166_139_FST_AUG22_Q66]

1. 25% and 75% [Option ID = 8901]
2. 45% and 55% [Option ID = 8902]
3. 55% and 45% [Option ID = 8903]
4. 65% and 35% [Option ID = 8904]

67) The storage forms of iron in liver and spleen in animals are _____.[Question ID = 2227][Question Description = 167_139_FST_AUG22_Q67]

1. ferrous gluconate [Option ID = 8905]
2. hemoglobin [Option ID = 8906]
3. ferritin and haemosiderin [Option ID = 8907]
4. methemoglobin and hemicromes [Option ID = 8908]

68) _____ deficiency in man results in reddened, denuded areas on the lips, with cracks at the corners of the mouth, swollen and reddened tongue.[Question ID = 2228][Question Description = 168_139_FST_AUG22_Q68]

1. Biotin [Option ID = 8909]
2. Pantothenic acid [Option ID = 8910]
3. Riboflavin [Option ID = 8911]
4. Cobalamin [Option ID = 8912]

69) Nylon 11 refers to Poly Amide made from a polymer of _____ .[Question ID = 2229][Question Description = 169_139_FST_AUG22_Q69]

1. Hexamethylene diamine [Option ID = 8913]
2. α caprolactam [Option ID = 8914]
3. ω undecanolactam [Option ID = 8915]
4. B caprolactam [Option ID = 8916]

70) Find the correct statement?[Question ID = 2230][Question Description = 170_139_FST_AUG22_Q70]

1. In the CIELAB system, colors are described with three color coordinates L^* , a^* and b^* where Lightness L^* goes from 0 (white) to 100 (black), a^* is the green- yellow axis and b^* is the red-blue axis [Option ID = 8917]
2. In the CIELAB system, colors are described with three color coordinates L^* , a^* and b^* where Lightness L^* goes from 0 (black) to 100 (white), a^* is the red-green axis and b^* is the yellow-blue axis. [Option ID = 8918]
3. In the CIELAB system, colors are described with three color coordinates L^* , a^* and b^* where Lightness L^* goes from 0 (black) to 100 (white), a^* is the yellow- red axis and b^* is the purple-blue axis. [Option ID = 8919]
4. In the CIELAB system, colors are described with three color coordinates L^* , a^* and b^* where Lightness L^* goes from 0 (white) to 100 (black), a^* is the orange-green axis and b^* is the red-pink axis. [Option ID = 8920]

71) One of the test to characterize viscoelastic foods is _____.[Question ID = 2231][Question Description = 171_139_FST_AUG22_Q71]

1. Drop test [Option ID = 8921]
2. Cobb test [Option ID = 8922]
3. Strain sweep test [Option ID = 8923]
4. Slip test [Option ID = 8924]

72) As per Fortification of Food Regulations, 2016 every package of food, fortified with Iron shall carry a statement_____.

[Question ID = 2232][Question Description = 172_139_FST_AUG22_Q72]

1. People with hypertension may take under medical supervision. [Option ID = 8925]
2. People with diabetes may take under medical supervision [Option ID = 8926]
3. People with thalassemia may take under medical supervision. [Option ID = 8927]
4. People with goiter may take under medical supervision. [Option ID = 8928]

73) As per FSSAI labelling regulations, _____ shall be mentioned on the label by the manufacturer in case of food with shelf-life of not more than seven days[Question ID = 2233][Question Description = 173_139_FST_AUG22_Q73]

1. Expiry date [Option ID = 8929]
2. Date of packing [Option ID = 8930]
3. Use by date [Option ID = 8931]
4. Date of manufacture [Option ID = 8932]

74) *Acinetobacter radioresistens* is a _____. [Question ID = 2234][Question Description = 174_139_FST_AUG22_Q74]

1. Gram-negative spiral bacterium [Option ID = 8933]
2. Gram- positive cocci [Option ID = 8934]
3. Gram-positive coccobacillary rod [Option ID = 8935]
4. Gram-negative coccobacillary rod [Option ID = 8936]

75) The half-life of ^{137}Cs , is around _____. [Question ID = 2235][Question Description = 175_139_FST_AUG22_Q75]

1. 15 years [Option ID = 8937]
2. 30 years [Option ID = 8938]
3. 45 years [Option ID = 8939]
4. 60 years [Option ID = 8940]

76) _____ is the primary pathogen that causes classic bacillary dysentery. [Question ID = 2236][Question Description = 176_139_FST_AUG22_Q76]

1. *Shigella dysenteriae* [Option ID = 8941]
2. *Bacillus subtilis* [Option ID = 8942]
3. *Lactobacillus dysenteriae* [Option ID = 8943]
4. *Vibrio cholera* [Option ID = 8944]

77) _____ is associated with scombroid food poisoning [Question ID = 2237][Question Description = 177_139_FST_AUG22_Q77]

1. Clostridium [Option ID = 8945]
2. Histamine [Option ID = 8946]
3. Listeria [Option ID = 8947]
4. Dopamine [Option ID = 8948]

78) Muller Kauffmann Tetrathionate Novobiocin broth is selective enrichment broth for _____. [Question ID = 2238][Question Description = 178_139_FST_AUG22_Q78]

1. Campylobacter [Option ID = 8949]
2. Salmonella [Option ID = 8950]
3. Clostridium [Option ID = 8951]
4. Bacillus [Option ID = 8952]

79) Natural sweetener Thaumatin is isolated from fruits of _____. [Question ID = 2239][Question Description = 179_139_FST_AUG22_Q79]

1. *Thaumatococcus daniellii* [Option ID = 8953]
2. *Thaumatococcus daniellii* [Option ID = 8954]
3. *Thaumatococcus brazzeana* [Option ID = 8955]
4. *Synsepalum dulcificum* [Option ID = 8956]

80) Enzyme chymosin (EC 3.4.23.4) derived, via fermentation, from a non pathogenic and non toxigenic strain of _____. [Question ID = 2240][Question Description = 180_139_FST_AUG22_Q80]

1. *Enterobacter aerogenes* K-18 [Option ID = 8957]
2. *Lactobacillus acidophilus* K-22 [Option ID = 8958]
3. *Sacharomyces cerevisiae* K 21 [Option ID = 8959]
4. *Escherichia coli* K-12 [Option ID = 8960]

81) Match List I with List II

List I	List II
A. Kimchi	I. Mild carbonated tea beverage
B. Sinki	II. Fermented black gram product
C. Kombucha	III. Fermented bamboo shoot product
D. Mesu	IV. Fermented vegetable product
E. Wari	V. Fermented radish taproot product

Choose the correct answer from the options given below:

[Question ID = 2241][Question Description = 181_139_FST_AUG22_Q81]

1. A - II , B - I , C - V , D - III , E - IV [Option ID = 8961]
2. A - IV , B - V , C - I , D - III , E - II [Option ID = 8962]
3. A - III , B - IV , C - I , D - V , E - II [Option ID = 8963]
4. A - IV , B - II , C - V , D - III , E - I [Option ID = 8964]

82) Anaerobic spoilage in canned foods with cheese odour and pronounced blowing but without H_2S production is caused by _____. [Question ID = 2242][Question Description = 182_139_FST_AUG22_Q82]

1. *Thermoanaerobacterium thermosaccharolyticum* [Option ID = 8965]
2. *Streptococcus thermophilus* [Option ID = 8966]
3. *Bacillus coagulans* [Option ID = 8967]
4. *Bacillus polymixa* [Option ID = 8968]

83) As per the effluents standards of Central Pollution Control Board, the Biochemical Oxygen Demand (mg/l) at 27 °C for 3 days for Inland surface water should not be more than _____.

[Question ID = 2243][Question Description = 183_139_FST_AUG22_Q83]

1. 60% [Option ID = 8969]
2. 75% [Option ID = 8970]
3. 90% [Option ID = 8971]
4. 100% [Option ID = 8972]

84) Which of the following products require mandatory certification under AGMARK ?

[Question ID = 2244][Question Description = 184_139_FST_AUG22_Q84]

1. Fat spread
[Option ID = 8973]
2. Tamarind powder
[Option ID = 8974]
3. Wheat flour
[Option ID = 8975]
4. Tomato ketchup
[Option ID = 8976]

85) Clause 7.6 of ISO 17025:2017 relates to _____.

[Question ID = 2245][Question Description = 185_139_FST_AUG22_Q85]

1. evaluation of measurement uncertainty [Option ID = 8977]
2. ensuring validity of results [Option ID = 8978]
3. ensuring customer satisfaction [Option ID = 8979]
4. audits [Option ID = 8980]

86) In high methoxy pectin, the amount of methylation is.....[Question ID = 2246][Question Description = 186_139_FST_AUG22_Q86]

1. 25% [Option ID = 8981]
2. 30-35% [Option ID = 8982]
3. 40-46% [Option ID = 8983]
4. 50-60% [Option ID = 8984]

87) Golden shred marmalades are.....[Question ID = 2247][Question Description = 187_139_FST_AUG22_Q87]

1. Sweet [Option ID = 8985]
2. Fermented [Option ID = 8986]
3. Sour [Option ID = 8987]
4. Bitter [Option ID = 8988]

88) In a modified atmosphere, the potassium permanganate is being used as.....[Question ID = 2248][Question Description = 188_139_FST_AUG22_Q88]

1. Moisture absorber [Option ID = 8989]
2. Ethylene producer [Option ID = 8990]
3. Ethylene absorber [Option ID = 8991]
4. CO₂ absorber [Option ID = 8992]

89) Maximum solubility of sugar at 20 °C is equal to.....[Question ID = 2249][Question Description = 189_139_FST_AUG22_Q89]

1. 43.2% [Option ID = 8993]
2. 82% [Option ID = 8994]
3. 67.5% [Option ID = 8995]
4. 75.6% [Option ID = 8996]

90) Which of the following sugar is found to be an effective coating agent for fruits?

[Question ID = 2250][Question Description = 190_139_FST_AUG22_Q90]

1. Ribose [Option ID = 8997]

2. Fructose [Option ID = 8998]
3. Raffinose [Option ID = 8999]
4. Trehalose [Option ID = 9000]

**91) A stable caramel should contain _____ parts of sucrose in every part of reducing sugar.[Question ID = 2251]
[Question Description = 191_139_FST_AUG22_Q91]**

1. 1.2-1.4 [Option ID = 9001]
2. 2.3-2.5 [Option ID = 9002]
3. 1.6-1.9 [Option ID = 9003]
4. 3.1-3.4 [Option ID = 9004]

92) Quality of sugar is determined by the process specified by:[Question ID = 2252][Question Description = 192_139_FST_AUG22_Q92]

1. ICUMSA [Option ID = 9005]
2. ICMUSA [Option ID = 9006]
3. IUCMSA [Option ID = 9007]
4. ISUCMA [Option ID = 9008]

93) A treatment used during the manufacture of cocoa powder to give particles better suspension properties when they are used in a drink is called.....[Question ID = 2253][Question Description = 193_139_FST_AUG22_Q93]

1. Tempering [Option ID = 9009]
2. Engrossing [Option ID = 9010]
3. Alkalizing [Option ID = 9011]
4. Enrobing [Option ID = 9012]

94) In onions, pink color is due to.....[Question ID = 2254][Question Description = 194_139_FST_AUG22_Q94]

1. Anthocyanin [Option ID = 9013]
2. Carotene [Option ID = 9014]
3. Xanthophyll [Option ID = 9015]
4. Quercetin [Option ID = 9016]

95) Solidity is the maturity index for.....[Question ID = 2255][Question Description = 195_139_FST_AUG22_Q95]

1. Root vegetables [Option ID = 9017]
2. Seed vegetables [Option ID = 9018]
3. Leafy vegetables [Option ID = 9019]
4. Cucurbits [Option ID = 9020]

96) Which of the following is NOT a step in the process involved in dry milling of maize?[Question ID = 2256][Question Description = 196_139_FST_AUG22_Q96]

1. De-germination [Option ID = 9021]
2. Sifting [Option ID = 9022]
3. Removal of moisture [Option ID = 9023]
4. Diluting [Option ID = 9024]

97) Stripping solvent of a meal is called

[Question ID = 2257][Question Description = 197_139_FST_AUG22_Q97]

1. Toasting [Option ID = 9025]
2. Buttering [Option ID = 9026]
3. Jamming [Option ID = 9027]
4. Milling [Option ID = 9028]

98) Which of the following is a step in Black tea manufacture?[Question ID = 2258][Question Description = 198_139_FST_AUG22_Q98]

1. Drying/Firing [Option ID = 9029]
2. Rolling [Option ID = 9030]
3. Withering [Option ID = 9031]
4. Grating [Option ID = 9032]

99) Chevon is the meat of.....[Question ID = 2259][Question Description = 199_139_FST_AUG22_Q99]

1. Sheep [Option ID = 9033]
2. Goat [Option ID = 9034]
3. Cattle [Option ID = 9035]
4. Poultry [Option ID = 9036]

100) Canning of meat is generally done in.....[Question ID = 2260][Question Description = 200_139_FST_AUG22_Q100]

1. Plain can [Option ID = 9037]
2. Lacquered cans [Option ID = 9038]
3. Glass container [Option ID = 9039]
4. Aluminums cans [Option ID = 9040]

101) Which of the following is most sweet.....[Question ID = 2261][Question Description = 201_139_FST_AUG22_Q101]

1. Fructose [Option ID = 9041]
2. Sucrose [Option ID = 9042]
3. Sodium cyclamate [Option ID = 9043]
4. Maltose [Option ID = 9044]

102) Subjecting fats to high temperature in the presence of oxygen such that fats deteriorate is called

[Question ID = 2262][Question Description = 202_139_FST_AUG22_Q102]

1. Hydrolytic rancidity [Option ID = 9045]
2. Auto- oxidation [Option ID = 9046]
3. Thermal decomposition [Option ID = 9047]
4. Lipolysis [Option ID = 9048]

103) The class of trans-fat present in meat is _____[Question ID = 2263][Question Description = 203_139_FST_AUG22_Q103]

1. Oleic acid [Option ID = 9049]
2. Vaccenic acid [Option ID = 9050]
3. Eicosapentaenoic acid [Option ID = 9051]
4. Arachidonic acid [Option ID = 9052]

104) Which of the following is NOT a step in Pre-press Solvent Extraction?[Question ID = 2264][Question Description = 204_139_FST_AUG22_Q104]

1. Seed Cooking [Option ID = 9053]
2. Pressing the flake [Option ID = 9054]
3. Solvent Extraction [Option ID = 9055]
4. Seed Whipping [Option ID = 9056]

105) The enzyme responsible for enzymatic browning in cut fruits is

[Question ID = 2265][Question Description = 205_139_FST_AUG22_Q105]

1. Catalase [Option ID = 9057]
2. Peroxidase [Option ID = 9058]
3. Polyphenol oxidase (PPO) [Option ID = 9059]
4. Lipase [Option ID = 9060]

106) are osmophilic yeasts.[Question ID = 2266][Question Description = 206_139_FST_AUG22_Q106]

1. *Saccharomyces Lactis* [Option ID = 9061]
2. *Saccharomyces rouxii* [Option ID = 9062]
3. *Saccharomyces Mellis* [Option ID = 9063]
4. Both 2 & 3 [Option ID = 9064]

107) Pigmented Propioni bacterium causes a color defect in[Question ID = 2267][Question Description = 207_139_FST_AUG22_Q107]

1. Meat [Option ID = 9065]
2. Cheese [Option ID = 9066]
3. Egg [Option ID = 9067]
4. Juices [Option ID = 9068]

108) INS number of MSG is -----[Question ID = 2268][Question Description = 208_139_FST_AUG22_Q108]

1. 620 [Option ID = 9069]
2. 621 [Option ID = 9070]
3. 622 [Option ID = 9071]
4. 623 [Option ID = 9072]

109) is the term used to label food treated with low-level of ionizing radiation.

[Question ID = 2269][Question Description = 209_139_FST_AUG22_Q109]

1. Alpha waved [Option ID = 9073]
2. Radiation pasteurized [Option ID = 9074]
3. Pico waved [Option ID = 9075]

4. Ionized [Option ID = 9076]

110) Swelling of moist macaroni is caused due to the presence of[Question ID = 2270][Question Description = 210_139_FST_AUG22_Q110]

1. *E. coli* [Option ID = 9077]
2. *L. cremoris* [Option ID = 9078]
3. *S. aureus* [Option ID = 9079]
4. *Enterobacter cloacae* [Option ID = 9080]

111) Alimentary Toxic Aleukia (ATA) is Mycotoxicosis caused by toxic metabolites.

[Question ID = 2271][Question Description = 211_139_FST_AUG22_Q111]

1. Fusariogenin and Epicladosporic acid [Option ID = 9081]
2. Luteoskyrin and Cyclochlorotine [Option ID = 9082]
3. Sterigmatocystin and Penicillic acid [Option ID = 9083]
4. DON and Cyclopiazonic acid [Option ID = 9084]

112) Participatory Guarantee Scheme (PGS) for certification of organic is implemented by Central Ministry of[Question ID = 2272][Question Description = 212_139_FST_AUG22_Q112]

1. Health [Option ID = 9085]
2. Commerce and industry [Option ID = 9086]
3. Agriculture and Farmer's welfare [Option ID = 9087]
4. Food processing [Option ID = 9088]

113) In brine pickles during the curing process the presence of *Aerobacter* is characterized by the production of ----- .

[Question ID = 2273][Question Description = 213_139_FST_AUG22_Q113]

1. Hydrogen [Option ID = 9089]
2. Carbon dioxide [Option ID = 9090]
3. Carbon dioxide and hydrogen [Option ID = 9091]
4. Sulphur dioxide and Carbon dioxide [Option ID = 9092]

114) In the mashing process, the mash is held at degree C for complete dextrinification.[Question ID = 2274]

[Question Description = 214_139_FST_AUG22_Q114]

1. 50-55 [Option ID = 9093]
2. 60-65 [Option ID = 9094]
3. 70-75 [Option ID = 9095]
4. 80-85 [Option ID = 9096]

115) Match List I with List II

List I	List II
Antibiotics	Microorganism
A. Bacitracin	I. <i>Bacillus polymyxa</i>
B. Colicine	II. <i>Bacillus brevis</i>
C. Gramicidin	III. <i>Bacillus subtilis</i>
D. Polymyxin	IV. <i>E. coli</i>

Choose the correct answer from the options given below:

[Question ID = 2275][Question Description = 215_139_FST_AUG22_Q115]

1. A-III, B-IV, C-I, D-II [Option ID = 9097]
2. A-III, B- IV, C-II, D-I [Option ID = 9098]
3. A-IV, B-III, C-I, D-II [Option ID = 9099]
4. A-III, B-I, C-IV, D-II [Option ID = 9100]

116) The citric acid production in the shallow tank method at standardized conditions is completed in ----- days.[Question ID = 2276][Question Description = 216_139_FST_AUG22_Q116]

1. 2-3 [Option ID = 9101]
2. 5-6 [Option ID = 9102]
3. 7-10 [Option ID = 9103]
4. 11-15 [Option ID = 9104]

117) ----- Chapter of FFSA 2006 deals with offenses and penalties.[Question ID = 2277][Question Description = 217_139_FST_AUG22_Q117]

1. VII [Option ID = 9105]
2. IX [Option ID = 9106]
3. X [Option ID = 9107]

4. XI [Option ID = 9108]

**118) ----- was developed to address specific PRP of food safety required for food manufacturers.[Question ID = 2278]
[Question Description = 218_139_FST_AUG22_Q118]**

1. PAS-220-2008 [Option ID = 9109]
2. PAS-220-2007 [Option ID = 9110]
3. PAS-220-2006 [Option ID = 9111]
4. PAS-220-2005 [Option ID = 9112]

**119) As per Environment (Protection) Act 1986 the Chairman of Genetic engineering approval committee is -----
- [Question ID = 2279][Question Description = 219_139_FST_AUG22_Q119]**

1. Additional Secretary, Dept. of Environment, Forest and Wildlife [Option ID = 9113]
2. Additional Secretary, Dept. of Health [Option ID = 9114]
3. Additional Secretary, Dept. of Agriculture [Option ID = 9115]
4. Additional Secretary, Dept. of Trade and Industries [Option ID = 9116]

**120) The sewage is treated by aerobic biological process in ----- treatment.[Question ID = 2280][Question Description =
220_139_FST_AUG22_Q120]**

1. Preliminary [Option ID = 9117]
2. Primary [Option ID = 9118]
3. Secondary [Option ID = 9119]
4. Both 1 and 2 [Option ID = 9120]

