PU Ph D Food Science and Technology

201 PU_2015_158
Which involves achieving growth dry selling more of our existing products in existing markets?

O Product development

O Market penetration

O Market development

O Diversification

123 PU_2015_158
Cinnamyl esterase activity in white wine contributes to the:-

O Hydrolysis of pectin

O Hydrolysis of coumaric and ferulic acid

O Hydrolysis of polyphenol

O Hydrolysis of rhamnogalacturonan

135 PU_2015_158
Genes involved in nitrogen fixation:-

O nix gene

O nit gene

O nif gene

O nfi gene

208 PU_2015_158
If permanent preservation is to occur, food must be protected from _____.

O Dust

O Contamination

O Recontamination

O Spoilage

128 PU_2015_158
pH of egg yolk:-

O 7.0-7.5

O 5.5-5.8

O 6.0-6.3

☐ 6.5-7.0

165 PU_2015_158
Natural convectional heat transfer is characterized by:-

☐ Peclet number

☐ Grashhoff number

☐ Prandtl number

☐ Reynolds number

204 PU_2015_158
The descriptions dimensions, specifications, calculations and so forth, are placed in a formal document and assigned a document control number.

☐ Final engineering

☐ Determine the impact of environment

☐ Communication of the design

☐ Constraints

151 PU_2015_158
Which of the following is a renewable energy source?

☐ Solar Energy

☐ Natural Gas

☐ Coal

☐ Bitumen

183 PU_2015_158
N-acyl derivatives of nuraminic acid are generally called:-

☐ Phytic acid

☐ Sialic acid

☐ Uronic acid

☐ Muramic acid

198 PU_2015_158
Eugenol is the principal component of:-

☐ coriander

☐ cassia

☐ clove

☐ cardamom

11 of 100
155 PU_2015_158
Among the following, which is most important for carrying out a material balance?

☐ Waste Quantity

☐ Pressure

☐ Temperature of Products

☐ Mass

12 of 100
196 PU_2015_158
Pekoe is a:-

☐ Method of rolling

☐ Leaf grade

☐ Broken grade

☐ None

13 of 100
122 PU_2015_158
Which of following is anomeric pair?

☐ α-D-glucose and β-D-glucose

☐ D-glucose and D-fructose

☐ D-glucose and L-glucose

☐ α-D-glucose and β-L-glucose

14 of 100
203 PU_2015_158
_____ is the act of developing an ideal scheme or plan of action.

☐ Evaluation of proposal solution

☐ Identification of constraints

☐ Component requirement

☐ Conceptualization

15 of 100
113 PU_2015_158
What are the components of ceramide?

☐ Sphingosine+ fatty acid + phosphoric acid

☐ Sphingosine + fatty acid + phosphoric acid + nitrogenous base

☐ Sphingosine + fatty acid

☐ Glycerol + fatty acid + phosphoric acid

142 PU_2015_158
If a purine base is substituted by a pyrimidne or viceversa the substitution is called:-

☐ Transition

☐ Mutation

☐ Transversion

☐ Transformation

121 PU_2015_158
The typical cyclical structure of Glucose is α and β D:-

☐ Glucoside

☐ Glucosamine

☐ Glucofuranose

☐ Glucopyranose

125 PU_2015_158
In Photosynthetic bacteria, photosynthesis takes place in:-

☐ Chromotophores

☐ Thylakoids

☐ Chloroplast

☐ Chlorophyll

168 PU_2015_158
For an ideal gas, the compressibility factor:-

☐ Is unity at all temperature

☐ Decreases with pressure rise

☐ Is unity at Boyle's temperature

☐ Zero

129 PU_2015_158
An artificial inducer commonly used in experimental work is:-

☐ β-galactosidase

☐ Calcium chloride

Isopropyl thio galactoside (IPTG)

X-gal

106 PU_2015_158
What is invert sugar, and why is it so named?

sugar mixture from hydrolysis of starch; α-glycosidic bonds are changed to β-glycosidic bonds

the sugar mixture from hydrolysis of sucrose; the optical rotation changes from (+) to (-)

the sugar mixture from hydrolysis of sucrose; fructose is isomerized to glucose

the sugar mixture from hydrolysis of starch; glucose is isomerized to fructose

112 PU_2015_158
Identify the correct name for the following peptide.
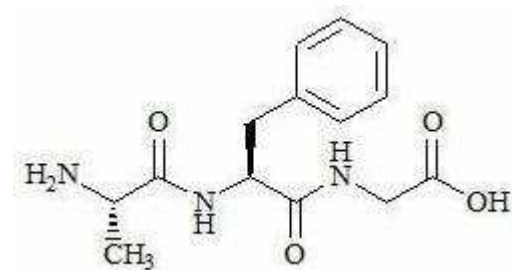
glycyl-L-phenylalanyl-L-alanine

L-phenylalanyl-L-alanyl-glycine

L-alanyl-L-phenylalanyl-glycine

L-alanyl-glycyl-L-phenylalanine

143 PU_2015_158
The first mycotoxin recognized as affecting human beings:-

Shiga toxin

Ergot

Pertussis

α toxin

209 PU_2015_158
_____ objective method for measuring volatile flavouring compounds in food products.

Hunter meter

Volatile meter

C
Long sought meter

C
Mechanical meter

182 PU_2015_158
The Chief spoilage organism on smoked fish are:-

C Mold

C Bacteria

C Both Mold & bacteria

C Fungi

124 PU_2015_158
The enzyme involved in enzymatic browning reactions is:-

C Laccases

C Diphenol hydrases

C Polyphenol oxidases

C Polyphenol hydrolases

207 PU_2015_158
_____ is referred to conducting an analysis to determine better the context of your product or package in a new market.

C Contextual analysis

C Structural specifications

C Dynamic status evaluation

C Concept selection

114 PU_2015_158
Which of the following statements is untrue about protein secondary structure?

C The ability of peptide bonds to form intramolecular hydrogen bonds is important to secondary structure.

C The alpha helix, beta pleated sheet and beta turns are examples of protein secondary structure.

C The hydrophilic/hydrophobic character of amino acid residues is important to secondary structure.

C The steric influence of amino acid residues is important to secondary structure.

138 PU_2015_158
The food that readily spoil unless special preservative methods are used, classified under:-

C Perishable foods

- Semi perishable foods
- Stable foods
- Non perishable foods

136 PU_2015_158
Among the following microorganism complete pathway of glucose to lactic acid is found only in:-

- Bifidiobacterium
- Lactobacillus
- Lactococcus
- Leuconostoc

181 PU_2015_158
Meat of goat is called:-

- Mutton
- Chevon
- Hog
- Veal

152 PU_2015_158
Greenhouse effect refers to increase in:-

- Greenery
- Carbon monoxide
- Global temperature
- Atmospheric pressure

144 PU_2015_158
Colonies resembling molar teeth are produced by:-

- Nocardia brasiliensis
- Actinomadura madurae
- Nocardia asteronoids
- Actinomyces israelii

199 PU_2015_158
Nigerose is a:-

- Trisaccharide

○ Polysaccharide

○ Disaccharide

○ Monosaccharide

154 PU_2015_158
When heat is added or removed, resulting in a change of temperature is called as:-

○ Latent heat

○ Sensible heat

○ Heat capacity

○ Specific heat

150 PU_2015_158
Pasteurization temperature of milk:-

○ 62 C

○ 72 C

○ 82 C

○ 52 C

167 PU_2015_158
Respiratory Quotient RQ is a measure of:-

○ Amount of O_2 formed / gram of substrate feed

○ Amount of CO_2 formed / gram of substrate feed

○ Amount of CO_2 formed/ gram of O_2 feed

○ None of the above

141 PU_2015_158
Antibiotic Gramicidin S is obtained from the bacterium:-

○ Bacillus cereus

○ Bacillus licheniformis

○ Bacillus subtilis

○ Bacillus brevis

153 PU_2015_158
Cane sugar is _____ and milk sugar is _____.

○ Lactose and sucrose

Sucrose and lactose

Glucose and sucrose

Lactose and Maltose

184 PU_2015_158
Starch used in frozen food should contain:-

Amylose content dose does not make any difference

Less amylopectin

High amylose

Less amylose

205 PU_2015_158
_____ the laboratory studies are undertaken during which environmental conditions are accelerated by a known factor, so that the product deteriorates at a faster than normal rates.

Shelf life prototype

Accelerated shelf life testing

Shelf life of existing products

Endpoint study

173 PU_2015_158
Peclet number (Pe) is given by:-

$Pe = Re\, Pr$

$9Pe = Nu\, Re$

$Pe = Pr/Re$

$Pe = Re/Pr$

174 PU_2015_158
Grashhoff number is:-

$\mu^2 / \beta g \Delta t l^2 \rho^3$

$\beta g \Delta t l^2 \rho^3 / \mu^2$

$\beta g \Delta t l^3 \rho^2 / \mu^2$

$\mu^2 / \beta g \Delta t l^3 \rho^2$

127 PU_2015_158
A chemical substance resembling a base is called a:-

◯ Base strategy

◯ Base substance

◯ Base analogues

◯ Base molecule

197 PU_2015_158
Tomato ketchup is a type of _____ fluid.

◯ Bingham plastic

◯ Newtonian

◯ Dilatent

◯ Plastic

139 PU_2015_158
The proteins in combination with prosthetic group like pigment is:-

◯ Lipoprotein

◯ Chromoprotein

◯ Phosphoprotein

◯ Metalloprotein

172 PU_2015_158
Luedeking – Pircet equation is his study of:-

◯ Product formation kinetics

◯ Oxygen utilization kinetics

◯ Substrate utilization

◯ None of the above

137 PU_2015_158
Anaerobic decomposition of proteins, peptides or aminoacids results in the production of obnoxious odours and is then called:-

◯ Deamination

◯ Denitrification

◯ Putrefaction

Nitrification

111 PU_2015_158
Which of the following molecules is involved in the feedback control of the enzyme phosphorylase *a*?

glucose-1-phosphate

AMP

adrenaline'

glycogen

126 PU_2015_158
Psoralens are:-

Food additives

Digestive compound

Food allergens

Natural toxicans

108 PU_2015_158
Which of the following statements most correctly defines the isoelectric point?

the pH at which all molecular species are neutral and uncharged.

the pH at which negatively and positively charged molecular species are present in equal concentration.

the pH at which all molecular species are ionized and that carry the same charge.

the pH at which half the molecular species are ionized (charged) and the other half unionized.

171 PU_2015_158
hd/k is called:-

Grashhoff number

Schmidt number

Rayleigh number

None of these

206 PU_2015_158
The average length of time that a product spends on the retail shelf is found by monitoring sales from retails outlets and from this the required shelf life is estimated.

Processing pavameters

Turnover time

○ Literature study

○ Newly developed products Turnover time

107 PU_2015_158
A disaccharide formed by 1,1-glycosidic linkage between their monosaccharide units is:-

○ Lactose

○ Sucrose

○ Maltose

○ Trehalose

105 PU_2015_158
An example of sulphur containing amino acid is:-

○ 2-Amino-3-methylbutanoic acid

○ 2-Amino-3-mercaptopropanoic acid

○ 2-Amino-3-hydroxypropanoic acid

○ Amino acetic acid

195 PU_2015_158
Enthalpy of the product is _____ on freezing.

○ Increases and Decreases

○ Decreases

○ Remain same

○ Increases

169 PU_2015_158
Unit of mass velocity is:-

○ Kg/hr

○ Kg/m hr

○ Kg/m^2

○ Kg/m^2 hr

109 PU_2015_158
Identify the strongest form of intermolecular bonding that could be formed involving the residue of the amino acid serine.

○ ionic bond

○ hydrogen bond

○ van der Waals interactions

○ none of the above

202 PU_2015_158
_____ is a newly packaged and labelled form of existing products prompted through new advertising strategies.

○ Creative products

○ Line extension

○ Reformulate the existing products

○ Repositioned existing products

166 PU_2015_158
Fruit juice can be concentrated in a:-

○ High pressure evaporator

○ Long tube evaporator

○ Falling film evaporator

○ None of theses

230 PU_2015_158
Modification of starch may affect:-

○ Viscosity

○ Gelatinization and heating time

○ Freezing stability and cold water stability

○ All of the above

226 PU_2015_158
Which of the following pair of carbohydrates are anomers of each other?

○ α- Glucose and β-Fructose

○ α- Glucose and β-Glucose

○ α- Glucose and α- Mannose

○ All of the above

231 PU_2015_158
Enzymes are:-

○ carbohydrates

○ DNA molecule

○ proteins

○ nucleic acids

252 PU_2015_158
Richest source of Riboflavin is:-

○ Mango

○ Bael

○ Papaya

○ Karonda

229 PU_2015_158
Carbonation in soft drinks is commonly achieved by adding:-

○ carbon dioxide

○ sodium carbonate

○ calcium carbonate

○ sodium bicarbonate

243 PU_2015_158
Fats are abundantly found in:-

○ a) Reproductive tissue

○ b) Vegetative tissue

○ c) Both (a) and (b)

○ d) None of these

253 PU_2015_158
Soft dough is due to:-

○ High temperature

○ Low temperature

○ Below normal temperature

○ Normal temperature

251 PU_2015_158
Which refrigerant is commonly is used in cold storage in our country?

- Ammonia
- Carbide
- Sodium benzoate
- Ethylene

235 PU_2015_158
Amino acids are joined by:-

- peptide bond
- glycosidic bond
- hydrogen bond
- ionic bond

225 PU_2015_158
Vegetable oils are rich in:-

- ω-3 fatty acids
- ω-6 fatty acids
- ω-5 fatty acids
- ω-4 fatty acids

254 PU_2015_158
What is the ratio of flour, fat, salt and water in the preparation of water biscuits and matzos?

- 100 : 6.5 : 1 : 29
- 70 : 6.5 : 1 : 15
- 90 : 7.5 : 1 : 25
- 80 : 6.5 : 1 : 20

227 PU_2015_158
Richest source of B12:-

- Goat liver and Spirulina
- Chocolate and green grains
- Rice and egg
- Carrot and chicken breast

234 PU_2015_158
What is phytic acid?

○ Hexaphosphoric acid of inositol

○ Potassium salt of hexaphosphoric acid

○ Phosphorous associated with mannitol

○ None of the above

74 of 100
241 PU_2015_158
Liquid form of triglycerides at ordinary room temperature are called:-

○ Fats

○ Oils

○ Solid

○ None of these

75 of 100
242 PU_2015_158
Iodine value measures:-

○ Degree of saturation

○ Amount of carbon present

○ Degree of unsaturation

○ Degree of oxidation

76 of 100
233 PU_2015_158
HTST milk is milk that has been processed using _____.~. procedures.

○ homogenous tempering short time

○ hot temperature short tempering

○ high temperature short time

○ homogenization time scalding temperature

77 of 100
245 PU_2015_158
F good gels are examples of:-

○ Plastic solids

○ Gels are not solids

○ Elastic solids

○ None of the above

78 of 100
228 PU_2015_158
A dipeptide has:-

○ 2 amino acids and 3 peptide bonds

○ 2 amino acids and 2 peptide bonds

○ 2 amino acids and 4 peptide bonds

○ 3 amino acids and 3 peptide bonds

244 PU_2015_158
Reynolds number is:-

○ Ratio b/w inertial force and pressure

○ Ratio b/w viscous force and pressure difference

○ Ratio b/w inertial force and viscous force

○ Ratio b/w viscous force and inertial force

232 PU_2015_158
The primary structure of protein represents:-

○ 3-dimensional structure of protein

○ sub unit structure of protein

○ helical structure of protein

○ Linear sequence of amino acids joined by peptide bond

281 PU_2015_158
Which of the following cells secretes Eselectins?

○ Microglial cells

○ Eosinophils

○ Endothelial cells

○ Epithelial cells

282 PU_2015_158
Bovine keratitis is caused by:-

○ *Bacteroides*

○ *Staphylococcus*

○ *Bordetellapertosis*

○ *Morexellabovis*

287 PU_2015_158
The micro-organism which is present in both fresh and frozen juices is:-

P. chrysogenum

E. coli

Entereobacteraerogenes

None of these

277 PU_2015_158
Sources of lead in our environment are:-

fillings for teeth, refrigerators, crystal glassware, oil paintings

x-ray shielding, fillings for teeth, automobile paint, bathroom fixtures

paint, crystal glassware, old water pipes, PVC pipes

paint, x-ray shielding, old water pipes, residue from leaded gasoline

278 PU_2015_158
In the US, the percentage of traffic deaths that are alcohol related is:-

20%

75%

10%

40%

272 PU_2015_158
Bond involved in the dough of the flour is/are:-

Hydrogen bond

Covalant bond

Hydrophobic bond

All of the above

271 PU_2015_158
Vacuum cooling is most suitable for:-

Leafy vegetables

Tubers

Fruits

None of these

299 PU_2015_158
Arrange the potencies of toxin in descending order of the following canned foods:-

- corn> peas>string beans>spinach
- peas>string beans>spinach> corn
- corn> spinach> peas>string beans
- corn> string bean>peas>spinach

280 PU_2015_158
A bright red lividity indicates:-

- cyanide poisoning
- carbon monoxide poisoning
- strychnine poisoning
- arsenic poisoning

279 PU_2015_158
A spot test can be used to determine:-

- whether a particular white powder is casine
- whether a particular white powder is cocaine
- whether a particular white powder is not cocaine
- whether a particular white powder is protin

297 PU_2015_158
The production of acetic acid from ethanol is an:-

- anaerobic process
- aerobic process
- both anaerobic & aerobic
- neither anaerobic nor aerobic

286 PU_2015_158
Anthracnose is a defect which can be observed as:-

- spotting of leaves
- spotting of seedpods
- spotting of fruits
- all of these

284 PU_2015_158
What is meant by the therapeutic ratio or index?

The ratio of LD_{50} to ED_{99}

The ratio of ED_{99} to ED_5

The ratio of LD_{50} to ED_{50}

The ratio of LD_1 to LD_5

273 PU_2015_158
Best maturity indices of orange is:-

Sugar %

TSS

Acid %

Brix : arid ratio

296 PU_2015_158
The organism B. *brevis* can be used commercially for the production of:-

tyrocidin

tyrothricin (bacitracin tyrocidin complex)

gramicidin A

all of the above

276 PU_2015_158
Which of the following is NOT a narcotic?

Fentanyl

Ectasy

Heroine

All of these are narcotics

298 PU_2015_158
Vinegar is a fermentation derived food product containing not less than:-

25% acetic acid

6% acetic acid

15% acetic acid

4% acetic acid

274 PU_2015_158
Cherry coffee is obtained by:-

○ Chemical treatment

○ Wet processing

○ Vacuum processing

○ Dry processing

99 of 100

283 PU_2015_158
In which of the following the enzyme substrate complex is irreversible in nature?

○ Both Competitive & Non- competitive inhibition

○ Un Competitive inhibition

○ Non- Competitive inhibition

○ Competitive inhibition

100 of 100

288 PU_2015_158
The spoilage of eggs by fungi goes through stages of mold growth that give the defects their names. Very early mold growth is termed:-

○ bacterias spot

○ superficial fungal spoilage

○ fungal rotting

○ pin-spot molding

158 PU Ph D Food Science and Technology

113 PU_2016_158_E
Anemometer is an instrument used to measure:-

○ Water flow rate

○ Air temperature

○ Pressure

○ Air flow rate

114 PU_2016_158_E
If an equation is dimensionally homogenous, it can be reduced to a relationship among a complete set of dimensionless products and the statement is known as:-

○ Buckingham π Theorem

○ Laplace Theorem

○ Newtons Theorem

○ Partial derivatives

191 PU_2016_158_E
Sensible heating or cooling process of air-vapor mixture on psycrometric chart is represented by:-

○ Curve

○ Vertical line

○ Horizontal line

○ Inclined line

184 PU_2016_158_E
The work required for crushing material is proportional to the logarithm of the ratio between initial and final diameters. This is the statement of:-

○ Bond's Law

○ Rittinger's Law

○ Boyle's Law

○ Kinks's Law

153 PU_2016_158_E
Rotary or reel sterilizers are used for sterilizing:-

○ Liquid foods in pipe

○ Bulk materials

○ Micowave

○ Canned food

107 PU_2016_158_E
The unit of thermal conductivity is:-

○ W/m/k

○ W/m^2 /K

○ J/m-K

○ Btu/ft^2.h^{0}F

118 PU_2016_158_E
Salt is a better food preservative than sugar because it:-

○ Lowers the vapor pressure of food water by a larger extent

○ Reduces pH

○ Has lower molecular weight

○ Kills microorganisms better

137 PU_2016_158_E
Froude number is expressed as:-

○ v/gD^2

○ V^2/√2D

○ v/√gD

○ v/gD

149 PU_2016_158_E
The difference between Pasteurizer and sterilizer is only in:-

○ Temperature attained

○ Heating agent used

○ Design of equipment

○ Cooling pattern

163 PU_2016_158_E
A male bovine animal that is castrated after maturing is called:-

○ Steer

○ Veal

○ Stag

○ Heifer

136 PU_2016_158_E
In a fluid flow system velocity at one point is measured by:-

○ Orifice meter

○ Anemometer

○ Pitot tube

○ Rotameter

116 PU_2016_158_E
Unit for measurement of vacuum is:-

○ Mm of Hg

○ Kg/cm

○ Kgf/cm^2

○ Torr

131 PU_2016_158_E
Solid materials are generally:-

○ Plastic

○ Visco-plastic

○ Elastic

○ Visco-elastic

102 PU_2016_158_E
Water activity of pure water is:-

○ Less than one

○ Equal to one

○ Greater than one

○ Zero

170 PU_2016_158_E
Polystyrene can be used for:-

○ Semi-acidic foods

○ Neutral foods

○ Acidic foods

○ Basic foods

196 PU_2016_158_E
A mixture of dry air and water vapor, when the air has diffused the maximum amount of water vapor into it, is called:-

○ Dry-moist air

○ Dry air

○ Saturated air

○ Moist air

171 PU_2016_158_E
Water Vapor transmission rate (WVTR) is expressed as:-

○ g/m^2

○ $g/m^2/24$ hr

○ g/cm^2

○ $g/cm^2 /24$ hr

182 PU_2016_158_E
The fishy flavor of fish is due to:-

○ Tri methyl amine oxide

○ Diacetyl

○ Methyl Urea

○ Trimethyl amine

141 PU_2016_158_E
The unit of thermal diffusivity is:-

○ m/h^0 C

○ m^2 /h

○ K Cal/m^2/C

○ m^2/h^0 C

123 PU_2016_158_E
The freezable water can be detected by:-

○ X-ray fluorescence

○ Wet bulb and Dry bulb temperatures

○ Gas Chromatography

○ Differential Thermal Analysis

21 of 100

194 PU_2016_158_E
An air stream (1 atmospheric pressure) at 100° C and 60% relative humidity has apartial pressure of water vapor equal to:-

○ 0.53 bar

○ 0.72 bar

○ 0.41 bar

○ 0.61 bar

22 of 100

117 PU_2016_158_E
Most cereal foods contain mainly:-

○ Fat

○ Protein

○ Crude fiber

○ Carbohydrate

23 of 100

101 PU_2016_158_E
Food processes can be analyzed in terms of:-

○ Mass balance

○ Unit operation

○ Process chart

○ Energy balance

24 of 100

126 PU_2016_158_E
Nature of crop grain is:-

○ Wet and dry

○ Aerodynamic

○ Humid

○ Hygroscopic

25 of 100

133 PU_2016_158_E
Ergun's equation is applicable to:-

Porous media flow

Turbulant flow

Slit flow

Laminar flow

111 PU_2016_158_E
Pre-cooling of fruit and vegetable is done to:-

Improve appearance

Improve ripening

Increase moisture loss

Reduce the amount of refrigeration

146 PU_2016_158_E
1000 Kg of milk (Cp= 3.9 KJ/Kg/K) at 80°C is to be heated to 135°C in a sterilizer by injecting steam at 500 KPa(152°C, λ= 2109 Kj/Kg, Cpw = 4.18KJ/Kg/K). If heat loss to the surrounding is 5%, the amount of steam to be injected is:-

106.8 Kg

101.7 Kg

103.3 kg

98.4 Kg

159 PU_2016_158_E
The temperature at which the water in a fruit will freeze is dependent on the amount of the following present in the fruit:-

Oil

Fiber

Sugar

Water

151 PU_2016_158_E
Malthu's Law on microbial growth is given by the differential equation, dx/dt =μx, where x is microbial density(mass of cells per unit volume of batch culture). μ is specific growth rate of culture(constant for the batch) and t is the time. The time required for microbial density to double will be:-

ln2/μ

μ/ln2

$\mu(\ln2)^2$

○ μ.ln2

122 PU_2016_158_E
The amount of husk that will be produced from100 Kg of paddy is:-

○ 22 Kg

○ 32 Kg

○ 42 Kg

○ 52 Kg

105 PU_2016_158_E
Pycnometer is used to measure:-

○ Humidity

○ Porosity

○ Temperature

○ Displacement

142 PU_2016_158_E
Highest thermal conductivity is of:-

○ Air

○ Oxygen

○ Hydrogen

○ Water

129 PU_2016_158_E
If the viscosity of the fluid decreases with time, the fluid is called:-

○ Thixotropic

○ Dilatent

○ Rheopectic

○ Bingham Fluid

166 PU_2016_158_E
The white fuzzy growth caused by molds on meat is called:-

○ White spot

○ Green Patches

○ Whiskers

○ Black spot

130 PU_2016_158_E
A fan delivers air at a flow rate of 15m^3 /s against static pressure of 150 mm water gauge. The power requirement is given as 30 KW. The static efficiency of fan will be:-

○ 75 %

○ 7.35%

○ 73.5 %

○ 7.5 %

134 PU_2016_158_E
Darcy's law valid under conditions of:-

○ Steady uniform flow

○ Laminar flow with Reynold's number>10

○ Reynold's number<1

○ Newtonian flow

128 PU_2016_158_E
Bernoulli's equation represents conservation of:-

○ Energy

○ Momentum

○ Mass

○ Force

132 PU_2016_158_E
For laminar flow region, the drag coefficient is, in terms of particle Reynolds's numbers R_{ep}:-

○ $64/R_{ep}$

○ $18/R_{ep}$

○ $24/R_{ep}$

○ $1/Rep$

179 PU_2016_158_E
Major component of Vanilla flavor is:-

○ 2,5-dimethyl vanillin

○ 2-hydroxy vanillin

○ Vanillin

○ 4- methyl vanillin

108 PU_2016_158_E
Equilibrium moisture curve is a plot between:-

○ Moisture content and air temperature

○ Moisture content and air velocity

○ Temperature and RH

○ Moisture content and RH

119 PU_2016_158_E
With increase in pressure, boiling point temperature of water_____ and enthalpy of evaporation _____.

○ Decreases, Increases

○ Increases, decreases

○ Increases, Increases

○ Decreases, decreases

176 PU_2016_158_E
A patent for a method of treating food by microwave energy was filed by:-

○ Raymond

○ Tappan

○ Dr. Percy Spencer

○ Raytheon

125 PU_2016_158_E
Accelerated testing calculation for shelf life prediction are based on:-

○ Organoleptic Data

○ Chemical Reactions

○ Arrhenius Equation

○ Temperature dependent linear models

174 PU_2016_158_E
The meat food products order was promulgated in:-

○ 1955

○ 1983

○ 1988

○ 1973

45 of 100
193 PU_2016_158_E
Adiabatic humidification is an:-

○ Isentropic process

○ Isobaric process

○ Isothermal process

○ Isoenthalpic process

46 of 100
154 PU_2016_158_E
The refrigeration system works on which law of thermodynamics?

○ Third

○ Zeroth

○ First

○ Second

47 of 100
147 PU_2016_158_E
Ratio of energy reflected by a body to the total radiation energy incident on a body is:-

○ Emissivity

○ Transmissivity

○ Absorptivity

○ Reflectivity

48 of 100
103 PU_2016_158_E
Final phase of processing operation is:-

○ Drying

○ Treating

○ Bagging

○ Milling

49 of 100
112 PU_2016_158_E
The difference between absolute and gauge pressure is:-

○ Atmospheric pressure

○ Vacuum pressure

○ 0.4333PSI

○ Zero

188 PU_2016_158_E
Psychrometric chart is plotted between:-

○ Absolute humidity and dry bulb temperature

○ Dry bulb temperature and wet bulb temperature

○ Relative humidity and enthalpy

○ Enthalpy and dry bulb temperature

104 PU_2016_158_E
Pascal is the unit of:-

○ Viscosity

○ Pressure

○ Displacement

○ Temperature

162 PU_2016_158_E
The cut from the belly portion of hog carcass is called:-

○ Ham

○ Veal

○ Mutton

○ Bacon

120 PU_2016_158_E
Vegetable seeds are stored at absolute temperature of 320K and relative humidity of 20%. If Henderson equation for equilibrium relationship is valid for this case, where the values of constants C and n are 6.510^{-6} and 1.8 respectively, the equilibrium moisture content of seeds will be:-

○ 5.6%

○ 20.5%

○ 13.4%

○ 10.2%

145 PU_2016_158_E

Butter has thermal diffusivity of 8.6x 10^{-8}m^2/s. If the characteristic dimension of butter slab is 2 cm then Fourier number at one hour is:-

○ 1.670

○ 0.599

○ 0.774

○ 1.292

156 PU_2016_158_E
One ton of refrigeration (K Cal/min) is equivalent to a heat load of:-

○ 200

○ 100

○ 50

○ 150

109 PU_2016_158_E
An adiabatic process taken place at:-

○ Pressure

○ Enthalpy

○ Heat

○ Temperature

187 PU_2016_158_E
The ratio of the mass of water vapours to the mass of dry air is called:-

○ Relative humidity

○ Partial pressure of water vapours

○ Water ratio

○ Absolute humidity

167 PU_2016_158_E
The iron content of yolk is _____ mg/egg.

○ 14.2

○ 1.42

○ 142.2

○ 0.42

135 PU_2016_158_E
Mass flow meter utilizes principle of:-

○ Faradays Law

○ Bernoulli's theorem

○ Angular momentum

○ Newton's third law

100 PU_2016_158_E
If the moisture content of paddy on wet basis is 25%, then what should be the moisture content on dry basis?

○ 30%

○ 33%

○ 20%

○ 40%

235 PU_2016_158_M
Parboiling is _____ treatment.

○ Chemical

○ Physical

○ Thermal

○ Hydrothermal

234 PU_2016_158_M
Oil content (Whole mass basis) in rice bran ranges between:-

○ 8-10%

○ 17-22 %

○ 11-16 %

○ 25-35 %

242 PU_2016_158_M
Angle of repose of wheat grain falls in the range of:-

○ 30-40

○ 31-44

○ 23-28

○ 20-25

249 PU_2016_158_M

In a godown extra space for alleys for inspection and disinfecting of stacks is provided which is generally about:-

○ 5%

○ 1%

○ 30%

○ 20%

233 PU_2016_158_M

Paddy contains _____% bran.

○ 20

○ 10

○ 5

○ 15

243 PU_2016_158_M

When a granular material is permitted to flow from appoint into a pile, the angle which the side of the pile makes with the horizontal is called:-

○ Scant modulus

○ Critical angle

○ Angle of repose

○ Tangent modulus

228 PU_2016_158_M

Communition means:-

○ Extraction

○ Distillation

○ Leaching

○ Size reduction

230 PU_2016_158_M

The moisture content in pulse for dehusking and splitting should be:-

○ 10-20 %

○ 35%

○ 0-10 %

20-30 %

247 PU_2016_158_M
Pressure drop in fluid flow through granular materials is best estimated by:-

○ Burke-Plummer equation

○ Fourier equation

○ Ergun equation

○ Blake-Kozney equation

250 PU_2016_158_M
Mixing index _____ with time.

○ Increases

○ Decreases

○ Equals

○ Does not change

246 PU_2016_158_M
Jensenn equation is related to:-

○ Size reduction of particle

○ Storage silo design

○ Grain transportation system

○ Size separation of grains

252 PU_2016_158_M
The arms of kneaders are of _____ shape.

○ Circular

○ Sigmoid

○ Rectangular

○ Triangular

220 PU_2016_158_M
In reverse osmosis, particles sizes removal range is:-

○ 5 nm-0.1 mm

○ 10-50 mm

○ 0.1-10m

239 PU_2016_158_M
In Jaw crusher, the angle made between fixed jaw and movable jaw:-

○ 40-50°

○ 30-40°

○ 20-30°

○ 10-20°

226 PU_2016_158_M
Match the items under Group I with items under Group II.

Group I	Group II
P. Threonine	1. Fatty acid
Q. Pyridoxine phosphate	2. Sugar
R. Xylose	3. Amino acid
S. Oleic acid	4. Co-enzyme

○ P-4, Q-3, R-1, S-2

○ P-2, Q-1, R-4, S-3

○ P-1, Q-2, R-3, S-4

○ P-3, Q-4, R-2, S-1

224 PU_2016_158_M
Separation on the basis of roundness is accomplished by:-

○ Aspiration separator

○ Spiral separator

○ Roll separator

○ Indented cylinder separator

254 PU_2016_158_M
Maximum inclination to carry food material with the belt conveyor is:-

○ 40°

○ 30°

○ 10°

○ 20°

221 PU_2016_158_M
Stokes law is used to find out:-

○ Drag coefficient

○ Specific gravity

○ Terminal velocity

○ Surface tension

237 PU_2016_158_M
Modern flour mills for wheat milling are:-

○ Attrition Type

○ Under Runner type

○ Disc Type

○ Roller type

231 PU_2016_158_M
Kick's law states that:-

○ The energy required for size of particle is proportional to ratio of initial size to final size.

○ The energy required for size reduction is proportional either to change in dimension or change in surface area.

○ The energy required for size reduction is proportional to change in surface area of the pieces of food.

○ The energy required for size reduction is proportional to initial size.

269 PU_2016_158_D
After addition of sugar, the gelatinization temperature of starch:-

○ First increases then decreases

○ Decreases

○ Remains unchanged

○ Increases

267 PU_2016_158_D
Which is not a part of plant layout?

○ Combination layout

○ Location economics

○ Product lay out

○ Process layout

83 of 100

262 PU_2016_158_D

After attaining terminal velocity, if the density of the particle is greater than density of the fluid:-

○ The particle will neither move upward nor downward

○ The particle will either move upward or downward

○ Particle will move upward

○ Particle will move downward

84 of 100

261 PU_2016_158_D

The bulk density of rough rice approved by ASAE is:-

○ $576Kg/m^3$

○ $596Kg/m^3$

○ $606Kg/m^3$

○ $586Kg/m^3$

85 of 100

276 PU_2016_158_D

Which of the following is the causative agent of fowl cholera?

○ *E.coli*

○ *V.cholera*

○ *P.multocida*

○ *S.pullorum*

86 of 100

277 PU_2016_158_D

In a typical oil-seed crop, the matured seeds are enriched with:-

○ Galactolipid

○ Neutral lipid

○ Phospholipid

○ Sphingolipid

87 of 100

292 PU_2016_158_D

Transmembrane regions of membrane proteins are usually more:-

○ Basic

○ Hydrophilic

○ Acidic

○ Hydrophobic

88 of 100
270 PU_2016_158_D
IU is equal to:-

○ 0.2µg

○ 0.1µg

○ 0.5µg

○ 0.3µg

89 of 100
280 PU_2016_158_D
Rheumatic fever is an example of:-

○ neurodegenerative disorder

○ immunodeficiency disease

○ autoimmune disease

○ type IV hypersensitive reaction

90 of 100
274 PU_2016_158_D
In strecker degradation, during maillard reaction, the aminoacids usually react with:-

○ Glucose

○ α- dicarbonyl compound

○ Schiffs base

○ Fat

91 of 100
293 PU_2016_158_D
Choose the option with two reducing sugars:-

○ Lactose and Maltose

○ Trehalose and Sucrose

○ Maltose and Trehalose

○ Lactose and Sucrose

92 of 100
265 PU_2016_158_D
The ratio of diameter of the largest inscribing circle to the diameter of the smallest circumscribing circle is called:-

○ Trignometry

○ Roundness

○ Sphericity

○ Shape factor

93 of 100
288 PU_2016_158_D
Which is the strongest reducing agent in photosynthetic electron transfer reactions?

○ P700*

○ P700

○ P680*

○ Plastoquinone

94 of 100
264 PU_2016_158_D
The specific gravity of skim milk is:-

○ Higher than water

○ Same as water

○ Lower than water

○ Same as whole milk

95 of 100
282 PU_2016_158_D
What mechanism is responsible for movements of eukaryotic cilia and flagella?

○ Dynein moving on microtubules

○ Myosin moving on microfilaments

○ Kinesin moving on microfilaments

○ Dynein moving on microfilaments

96 of 100
260 PU_2016_158_D
The angle of repose of wheat grain is:-

○ 28-33

○ 23-28

○ 18-23

○ 33-38

97 of 100
284 PU_2016_158_D
P53 protein is associated with all of the following except:-

○ Transcription

○ Post transcriptional modification

○ Programmed cell death

○ Tumour suppression

286 PU_2016_158_D
Which one of the following microscopic techniques can be used to study the contour of proteins?

○ SEM

○ Confocal microscopy

○ TEM

○ AFM

289 PU_2016_158_D
The end products of glycolysis include ATP:-

○ CO_2 and H_2O

○ CO_2 and NADH

○ NADH and pyruvate

○ H_2O and pyruvate

272 PU_2016_158_D
What is phytin?

○ Phosphoric acid of sorbitol

○ A polymer of phytic acid

○ Calcium salt of phytic acid

○ Phosphorous associated with mannitol

Examination: **Ph.D. Food Science and Technology**

Section 1 - Section 1

Question No.1
4.00

Bookmark ☐

neohesperidinedihydrochalcone from citrus rind is responsible for
- ○ Sourness
- ○ Sweetness
- ○ Bitterness
- ○ Astringency

Question No.2
4.00

Bookmark ☐

The major phytochemical used as neutraceuticals is
- ○ Glucosinolates
- ○ Sphingolipid
- ○ Choline
- ○ Lecithin

Question No.3
4.00

Bookmark ☐

Hydration is a process of
- ○ packing with hydrogen gas
- ○ soaking in water
- ○ drying at high temperatures
- ○ drying at low temperatures

Question No.4
4.00

Bookmark ☐

LDL
- ○ provide the major means of triacylglycerol transport
- ○ are involved in the transport and delivery of cholesteryl esters
- ○ by uncontrolled self-replication are the cause of hypercholesterolemia
- ○ are substrates for hormone sensitive lipase

Question No.5
4.00

Bookmark ☐

Which chemical is used for controlling sprouting of onions in storage
- ○ Gallic Acid
- ○ Maleic Hydrazide
- ○ Gibberellic Acid
- ○ Ethylene (C_2H_4)

Question No.6
4.00

Bookmark ☐

Thickness in thin layer drying is
- ○ more than 35 cm
- ○ 15-25 cm
- ○ 25-35 cm
- ○ less than 15 cm

Question No.7   4.00

Bookmark ☐

Identify the food that contains nitrosamines formed by the reaction of nitrates and nitrites with amino acids?

- ○ Cooked preserved meats
- ○ Bananas artificially ripened in an atmosphere of ethylene
- ○ Cheese aged over 6 months
- ○ Mushrooms cooked in aluminum pots

Question No.8   4.00

Bookmark ☐

In the following question, the first two words (given in italics) have a definite relationship. Choose one word out of the given four alternatives which will fill the blank space and show the same relationship with the third word as between the first two.

Latex is to *Rubber* as *Flax* is to ………?………….

- ○ Linen
- ○ Jute
- ○ Cotton
- ○ Silk

Question No.9   4.00

Bookmark ☐

Common drying technique is used to remove

- ○ equilibrium moisture content
- ○ bound moisture
- ○ total moisture content
- ○ free moisture

Question No.10   4.00

Bookmark ☐

The size of round screen is represented by its

- ○ circumference
- ○ area
- ○ diameter
- ○ radius

Question No.11   4.00

Bookmark ☐

Arachidonic acid is an important fatty acid in human because it

- ○ serves as a precursor to prostanoids
- ○ has all trans double bonds
- ○ imparts surface-active properties to lung surfactant
- ○ is a saturated fatty acid

Question No.12   4.00

Bookmark ☐

Rheology deals with

- ○ flow and deformation
- ○ torque and velocity
- ○ viscosity and density
- ○ stress and strain

Question No.13 4.00

Bookmark ☐

The temperature range for ultra high temperature UHT sterilisation of milk is

○ 115 - 125°C

○ 90 - 100°C

○ 135 - 150°C

○ 100 - 125°C

Question No.14 4.00

Bookmark ☐

Glucose is used in human metabolism for the synthesis of all the following except

○ Oxaloacetate

○ Ribose 5-phosphate

○ glycerol 3-phosphate

○ Leucine

Question No.15 4.00

Bookmark ☐

The process of reducing fat droplet size in milk to prevent cream separation is known as

○ esterification

○ pasteurisation

○ crystallisation

○ Homogenisation

Question No.16 4.00

Bookmark ☐

Fat percentage in butter is

○ 80

○ 60

○ 70

○ 50

Question No.17 4.00

Bookmark ☐

Hydrogenated oils are considered to be lower in nutritional quality due to

○ decreasing saturation of fatty acids

○ formation of trans-fatty acids

○ increasing unsaturation of fatty acids

○ decreasing level of essential fatty acids

Question No.18 4.00

Bookmark ☐

Select the true statement.

○ Citrus fruits are desirable in the diet because they furnish citric acid, a component of the Krebs cycle

○ Propionic acid, which is added to bread to retard spoilage, is very toxic because it cannot be utilized in the body

○ Cola drinks are often acidified with phosphoric acid

○ Properly canned foods should not be kept for longer than 2 months because of oxidation in the container

Question No.19 4.00

Bookmark ☐

The apparatus is used for the moisture determination of spices

○ Hydrometer

○ Dean and stark

○ Soxhlet apparatus

○ Clevenger apparatus

Question No.20 4.00

Bookmark ☐

Which of the following analytical methods can be used to distinguish flavour compounds?

○ near infrared spectroscopy

○ polarimetry

○ hydrometry

○ gas chromatography

Question No.21 4.00

Bookmark ☐

The moisture content of 20% (w.b) will be equal to

○ 25% (d.b)

○ 30% (d.b)

○ 35% (d.b)

○ 20% (d.b)

Question No.22 4.00

Bookmark ☐

The SI unit for specific heat of food grains is

○ kcal/kg

○ KJ/kgK

○ kcal/kg^{o}C

○ W/kg^{o}C

Question No.23   4.00

Bookmark ☐

Based on the information given answer the following question.
1. In a family of six persons, there are people from three generations. Each has separate professions and they like different colours. There are two couples.
2. Shyam is an Engineer and his wife is not a doctor and she does not like Red colour.
3. Chartered Accountant likes green colour and his wife is a teacher.
4. Manisha is the mother-in-law of Sunita and she likes orange colour.
5. Vimal is the grand father of Tarun and tarun is the Principal and likes black colour.
6. Nyna is the grand daughter of Manisha and she likes blue colour. Nyna's Mother likes white colour.

Which Colour is liked by the Sunita?

    ○ White

    ○ Black

    ○ Cannot be determined

    ○ Green

Question No.24   4.00

Bookmark ☐

Fluid more frequently used in super critical fluid extraction process is

    ○ chlorofluorocarbon

    ○ hexane

    ○ carbon-di-oxide

    ○ methane

Question No.25   4.00

Bookmark ☐

Fill in the blank with the correct form of the verb.
The International Women's Day _____ with great enthusiasm by our university last month.

    ○ celebrated

    ○ was celebrated

    ○ is celebrated

    ○ has celebrated

Question No.26   4.00

Bookmark ☐

In grain storage system which one has high tolerance limit?

    ○ Bacteria

    ○ Birds

    ○ Fungi

    ○ Insect

Question No.27   4.00

Bookmark ☐

Coenzyme A contains the vitamin

    ○ pantothenic acid

    ○ pyridoxine

    ○ riboflavin

    ○ thiamine

Question No.28   4.00

Bookmark ☐

Thermogravimetric analysis is not concerned with

- ○ Reagent of Precipitation
- ○ Mass
- ○ Time
- ○ Temperature

Question No.29   4.00

Bookmark ☐

You wouldn't tell them what happened, _____

- ○ wouldn't you?
- ○ would you?
- ○ isn't it?
- ○ won't you?

Question No.30   4.00

Bookmark ☐

Decimal reduction time in microbial destruction is inversely proportional to

- ○ Z value
- ○ Universal gas constant
- ○ Reaction rate
- ○ initial concentration

Question No.31   4.00

Bookmark ☐

Choose the most appropriate preposition to fill the blank:
The mathematics exam will be held between 2_____4pm.

- ○ and
- ○ from
- ○ to
- ○ at

Question No.32   4.00

Bookmark ☐

Thiamine pyrophosphate is involved in

- ○ oxidation-reduction reactions
- ○ carboxylation reactions
- ○ aminotransferases
- ○ decarboxylation reactions

Question No.33   4.00

Bookmark ☐

The NPU and BV are reference values for the comparison of the food value of

- ○ proteins
- ○ Carbohydrates
- ○ lipids
- ○ fiber

Question No.34   4.00

Bookmark ☐

Spinach is rich in

- ○ Vitamin E
- ○ Vitamin C
- ○ Vitamin A
- ○ Vitamin B

Question No.35   4.00

Bookmark ☐

Which of the following acid will have higher bacteriostatic effect at a given pH

- ○ Acetic acid
- ○ Citric acid
- ○ Maleic acid
- ○ Tartaric acid

Question No.36   4.00

Bookmark ☐

Preservative having maximum efficiency against rope forming organisms in bread is

- ○ Sulphur dioxide
- ○ Nitrites
- ○ Calcium propionate
- ○ Sodium benzoate

Question No.37   4.00

Bookmark ☐

Which of the following microorganisms cannot tolerate oxygen

- ○ *Staphylococcus aureus*
- ○ *E. coli*
- ○ *Penicilliumroquefortii*
- ○ *Clostridium botulinum*

Question No.38   4.00

Bookmark ☐

If 9 men working 6 hours a day can do a work in 88 days. Then 6 men working 8 hours a day can do it in how many days?

- ○ 97
- ○ 89
- ○ 99
- ○ 95

Question No.39   4.00

Bookmark ☐

The process of mass transfer in which the water vapors move from the surface of the produce to the surrounding atmosphere is known asatmosphere is known as

- ○ Transformation
- ○ Transmission
- ○ Transpiration
- ○ Condensation

Question No.40   4.00

Bookmark ☐

The method of mining silver varies from place to place, _____?

○ isn't it?

○ doesn't it?

○ is it?

○ does it?

Question No.41   4.00

Bookmark ☐

The iodine number of a fat measures

○ its degree of unsaturation

○ its amphipathic character

○ the number of phosphate groups in the molecule

○ the number of hydroxyl groups present

Question No.42   4.00

Bookmark ☐

Substance required in Ca++ transport by intestinal mucosa

○ etiocholanolone

○ 1,25-dihydroxycholecalciferol

○ cholic acid

○ cholesterol

Question No.43   4.00

Bookmark ☐

What is the operating principle behind oven drying for determining moisture content offoods?

○ colour change is measured

○ loss of weight represents loss of water

○ change in refractive index is measured

○ change in light absorbance is measured

Question No.44   4.00

Bookmark ☐

The International Unit (I.U.) for enzyme activity is that amount of enzyme which at 30° C will convert substrate to product at a rate of

○ 1 millimole/min

○ 1 micromole/sec

○ 1 millimole/sec

○ 1 micromole/min

Question No.45   4.00

Bookmark ☐

Sunil likes chocolates very much, _____?

○ isn't it?

○ is it?

○ does he

○ doesn't he?

Question No.46
4.00

Bookmark ☐

From most of the wheat mills the yield of flour obtained is about

- ○ 65%
- ○ 75%
- ○ 80%
- ○ 60%

Question No.47
4.00

Bookmark ☐

Tomato ketchups TSS (%) should not be less than:-

- ○ 25
- ○ 35
- ○ 39
- ○ 41

Question No.48
4.00

Bookmark ☐

The optimum moisture content of paddy for milling is

- ○ 8-10 % w.b
- ○ 12-14% w.b
- ○ 10-12% w.b
- ○ 14-20% w.b

Question No.49
4.00

Bookmark ☐

Yolk constitute _____ % of the total weight of egg

- ○ 31%
- ○ 41%
- ○ 21%
- ○ 51%

Question No.50
4.00

Bookmark ☐

Red colour in Chillies is mainly due to

- ○ Beta-carotene
- ○ Anthocyanins
- ○ Carotenoid
- ○ Lycopene

Question No.51
4.00

Bookmark ☐

pH of honey is

- ○ 5.6 - 6.9
- ○ 2.9
- ○ 7.0 - 8.1
- ○ 3.2 - 4.2

Question No.52   4.00

Bookmark ☐

Statement: Be humble even after being victorious.
Assumptions:
I. Many people are humble after being victorious
II. Generally People are not humble

- ○ If only assumption II is implicit
- ○ If both I and II are implicit
- ○ If only assumption I is implicit
- ○ If neither I nor II is implicit

Question No.53   4.00

Bookmark ☐

Parboiling of paddy is a

- ○ soaking process
- ○ hydro thermal process
- ○ heating process
- ○ drying process

Question No.54   4.00

Bookmark ☐

The preservative added for the grape squash is

- ○ citric acid
- ○ sodium benzovate
- ○ sodium chloride
- ○ potassium meta bi sulphite

Question No.55   4.00

Bookmark ☐

The preservative having activity both in acidic as well as alkaline pH is

- ○ Sodium benzoate
- ○ Parabens
- ○ Sorbic acid
- ○ Propionic acid

Question No.56   4.00

Bookmark ☐

If whole the surface of a food material is dried in the absence of radiation using hot air, the surface temperature will be equal to

- ○ dew point of the air
- ○ dry bulb temperature of air
- ○ Wet bulb temperature of air
- ○ boiling point of water

Question No.57   4.00

Bookmark ☐

Calorific value of rice husk is approximately

- ○ 20000 kJ/kg
- ○ 25000 kJ/kg
- ○ 22500 kJ/kg
- ○ 12500 kJ/kg

Question No.58   4.00

Bookmark ☐

Water content of skimmed milk is

○ 90

○ 80

○ 70

○ 60

Question No.59   4.00

Bookmark ☐

Glycogen is

○ a highly branched heteropolysaccharide with alpha 1>6 glycosidic branch points

○ a highly branched glucan with primarily alpha 1>4 glycosidic linkages and alpha 1>6 branch points

○ a linear glucan with alpha 1>4 glycosidic linkages

○ a relatively low molecular weight polysaccharide with alpha 1>4 and alpha 1>6 glycosidic linkages

Question No.60   4.00

Bookmark ☐

Which of the following is not one of the twenty common amino acids?

○ NH_2-CO-CH_2-$CHNH_2$-COOH

○ HOOC-CH_2-$CHNH_2$-COOH

○ CH_3-$CHNH_2$-COOH

○ $HOCHNH_2$-CH_2-COOH

Question No.61   4.00

Bookmark ☐

Which of the following equations represents a straight line?

○ $4y^2+2x^2=0$

○ $4x^2+2x+9=0$

○ $3x^2+2xy+y^2=9$

○ $4y+3x+2=0$

Question No.62   4.00

Bookmark ☐

Study the following information carefully and answer the question below it

In a family, Isha is the granddaughter of Asha. Deepa is the mother of Hansa. Charan is the son of Anand. Radha is the mother of Isha. Deepa is the sister of Vinod and Charan. Nagesh has two children, Gita and Hansa. Emesh is the only grandson in the family. Charan is not married. Radha is the daughter-in-law of Anand.

Who is married to Radha?

○ Vinod

○ Nagesh

○ Anand

○ Charan

Question No.63   4.00

Bookmark ☐

"Freez burn" is an injury observed during frozen storage of poultry meat. It can be prevented by

- ○ By packaging the product with a skin tight, impermeable plastic
- ○ By allowing fluctuations in the storage room
- ○ Circulating dry air in the cold storage
- ○ By maintaining very low temperature

Question No.64   4.00

Bookmark ☐

Folic acid has one of the following FDA approved health claim related to

- ○ Coronary heart disease
- ○ Hypertension
- ○ Cancer
- ○ Neural tube birth defects

Question No.65   4.00

Bookmark ☐

To which of the following does protein tertiary structure refer?

- ○ helical structure in proteins
- ○ the three dimensional structure
- ○ amino acid sequence
- ○ amino acid composition

Question No.66   4.00

Bookmark ☐

Choose the best antonym of the italicized word.
The principal *deprecated* the attitude of some student-leaders.

- ○ tolerated
- ○ ignored
- ○ appreciated
- ○ derided

Question No.67   4.00

Bookmark ☐

The yellow pigment in papaya is

- ○ carotene
- ○ caricaxanthin
- ○ anthocyanin
- ○ xanthophylls

Question No.68   4.00

Bookmark ☐

Which of the following number represents the carbon atoms in Oleic acid?

- ○ 18
- ○ 12
- ○ 10
- ○ 16

Question No.69 4.00

Bookmark ☐

The product derived out of milk after removal of cream is known as

- ○ whey
- ○ butter milk
- ○ curd
- ○ skimmed milk

Question No.70 4.00

Bookmark ☐

Choose the synonym of the italicized word.
Some people are extremely *fastidious* in their choice of dress.

- ○ careless
- ○ fussy
- ○ pompous
- ○ discriminating

Question No.71 4.00

Bookmark ☐

Firmness of fruits is a property related to

- ○ electrical properties
- ○ textural characteristics
- ○ optic properties
- ○ physical properties

Question No.72 4.00

Bookmark ☐

1, 4, 27, 16, ?, 36, 343

- ○ 125
- ○ 25
- ○ 72
- ○ 132

Question No.73 4.00

Bookmark ☐

Three nutritionally essential amino acids which tend to be deficient in plant proteins are

- ○ methionine, lysine and tyrosine
- ○ lysine, arginine and threonine
- ○ tryptophan, methionine and lysine
- ○ tryptophan, lysine and leucine

Question No.74 4.00

Bookmark ☐

The dose of ionizing radiation for destruction of *Clostridium botulinum* is

- ○ 2.5-4 kGy
- ○ 5-6 kGy
- ○ 4-5 kGy
- ○ 0-2.5 kGy

Question No.75 4.00

Bookmark ☐

Most spoilage and pathogenic bacteria those contaminate food materials have water activity of

- ○ 0.81 – 0.85
- ○ 0.86 - 0.90
- ○ 0.75 - 0.80
- ○ 0.91 – 0.99

Question No.76 4.00

Bookmark ☐

Study the following information carefully and answer the question below it:

Aasha, Bhuvnesh, Charan, Danesh, Ekta, Farhan, Ganesh and Himesh are sitting around a circle, facing the centre. Aasha sits fourth to the right of Himesh while second to the left of Farhan. Charan is not the neighbour of Farhan and Bhuvnesh. Danesh sits third to the right of Charan. Himesh never sits next to Ganesh.

Which is the position of Farhan with respect to Ekta?

- ○ Second to the right
- ○ Fourth to the right
- ○ Sixth to the left
- ○ Third to the left

Question No.77 4.00

Bookmark ☐

Decimal reduction time in microbial destruction is

- ○ inversely proportional to Z value
- ○ reaction rate
- ○ universal gas constant
- ○ initial concentration

Question No.78 4.00

Bookmark ☐

Study the following information carefully and answer the question below it (i) There is a group of five persons- A, B, C, D and E (ii) One of them is manual scavenger, one is sweeper, one is watchman, one is human scarecrow and one is grave-digger (iii) Three of them – A, C and grave-digger prefer tea to coffee and two of them – B and the watchman prefer coffee to tea (iv) The human scarecrow and D and A are friends to one another but two of these prefer coffee to tea. (v) The manual scavenger is C's brother Which of the following groups includes a person who likes tea but is not a grave-digger?

- ○ BD
- ○ DE
- ○ BCE
- ○ None of the above

Question No.79 4.00

Bookmark ☐

Choose the correct meaning of the italicized idiom.
The police *cordoned off* the area after the explosion.

- ○ isolated the area
- ○ did not allow anyone to leave the area
- ○ checked everyone in the area
- ○ filled the whole area

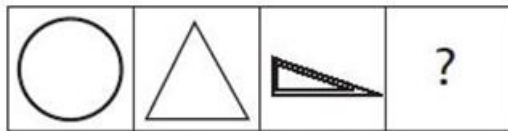**Question No.80**   4.00

Bookmark ☐

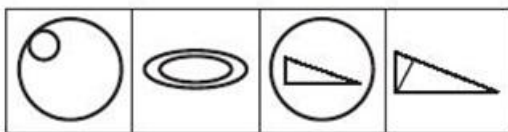In thermal processing decimal reduction time refers to the time required to destroy this percent level of microorganism

- ○ 100
- ○ 10
- ○ 50
- ○ 90

Question No.81   4.00

Bookmark ☐

- ○ 1
- ○ 3
- ○ 2
- ○ 4

Question No.82   4.00

Bookmark ☐

Which bean is used for extraction of gum?

- ○ cluster bean
- ○ broad bean
- ○ french bean
- ○ hyacinth bean

Question No.83   4.00

Bookmark ☐

Which hydrocolloid shows milk reactivity

- ○ Gum Arabic
- ○ Carrageenan
- ○ Tragacanth
- ○ Guar gum

Question No.84   4.00

Bookmark ☐

Which method is not a non-thermal processing?

- ○ Cold Plasma
- ○ Ohmic heating
- ○ Pulsed light
- ○ Ultrasound

Question No.85   4.00

Bookmark ☐

The basal metabolic rate (BMR) is the energy needed by a resting individual. The factors with the least effect on the BMR is the

- ○ mental activity of the subject
- ○ body composition of the individual
- ○ age of the subject
- ○ sex of the individual

Question No.86   4.00

Bookmark ☐

Which of the following foods is rich in omega-3 fatty acids?

- ○ fatty fish
- ○ butter
- ○ lard
- ○ olive oil

Question No.87   4.00

Bookmark ☐

The moisture content of grains for safe storage is

- ○ 12-15% w.b
- ○ 8-10 % w.b
- ○ 15-20% w.b
- ○ 10-12% w.b

Question No.88   4.00

Bookmark ☐

Fats are insoluble in

- ○ Solvent
- ○ Enzymes
- ○ Preservatives
- ○ Water

Question No.89   4.00

Bookmark ☐

Which number replaces the question mark?

- ○ 2
- ○ 1
- ○ 3
- ○ 4

Question No.90   4.00

Bookmark ☐

This crop is known as Kalpavriksha

- ○ Rubber
- ○ Oilpalm
- ○ Arecanut
- ○ Coconut

Question No.91 4.00

Bookmark ☐

The brown colour of bread crust during baking is due to Maillard reaction between
- ○ starch and yeast
- ○ aldehyde groups of sugars and amino groups of proteins
- ○ aldehyde groups of sugars and salt
- ○ aldehyde groups of sugars and vitamins

Question No.92 4.00

Bookmark ☐

Sucrose is composed of
- ○ two residues of D-glucose
- ○ one residue each of D-glucose and D-fructose
- ○ one residue each of D-glucose and D-galactose
- ○ one residue each of D-galactose and D-fructose

Question No.93 4.00

Bookmark ☐

The preservative that destroys thiamine is
- ○ Propionic acid
- ○ Sulphur dioxide
- ○ Benzoic acid
- ○ Acetic acid

Question No.94 4.00

Bookmark ☐

Dose of irradiation used for the control of sprouting of potato and onions is
- ○ kGy
- ○ 2-5 kGy
- ○ 7-10 kGy
- ○ 0.1 to 0.2 kGy

Question No.95 4.00

Bookmark ☐

If black is called white, white is called red, red is called pink, pink is called green, green is called blue, what would be the colour of human blood?
- ○ White
- ○ Green
- ○ Blue
- ○ Pink

Question No.96 4.00

Bookmark ☐

In capillary viscometer shear stress is proportional to
- ○ flow index
- ○ torque
- ○ pressure drop
- ○ angular velocity

Question No.97   4.00

Bookmark ☐

Statements: Buses are cars. Cycles are cars
Conclusion:
I. Cars are buses
II. Buses are Cycles

- ○ If only conclusion II follows
- ○ If only conclusion I follows
- ○ If neither I nor II follows
- ○ If either I or II follows

Question No.98   4.00

Bookmark ☐

In a multiple effect evaporator concentration of liquid food is difficult in the last effect because

- ○ vacuum level is low
- ○ temperature is low
- ○ flow rate is reduced
- ○ viscosity of liquid is high

Question No.99   4.00

Bookmark ☐

Percentage of bran removed from paddy is

- ○ 5
- ○ 10
- ○ 8
- ○ 2

Question No.100   4.00

Bookmark ☐

At their isoelectric point proteins have

- ○ no positively charged groups
- ○ no negatively charged groups
- ○ no ionized groups
- ○ equal numbers of positively and negatively charged groups