(A) CHEMISTRY OF FOODS

1. Environmental factors such as temperature and pH exert their effect on the _____ of microbial cells.
   a. Membranes b. DNA
   c. Enzymes d. Cell wall

2. An enzyme _____ the activation energy required for a chemical reaction.
   a. Increases b. Provides
   c. Lowers d. Catalyzes

3. Algin is
   a. A polysachharide b. A lipid
   c. A protein d. A provitamin

4. An enzyme
   a. Becomes a part of the final products b. Is non specific for substrate
   c. Is consumed by the reaction d. Is heat and pH labile

5. An apoenzyme is where the _____ is located .
   a. Cofactor b. Coenzyme
   c. Redox reaction d. Active site

6. Many coenzyme are
   a. Metals b. Vitamins c. Proteins d. Substrates

7. To digest cellulose in its environment, a fungus produces a/an
   a. Endoenzytne b. Exoenzyme
   c. Catalase d. Polymerase

8. In negative feedback control of enzymes, a buildup in the amount of decreases the activity of the enzyme
   a. Substrate b. Reactant c. Product d. ATP

9. Consider the following statements
   i. Carbohydrates are the compounds made up of Carbon, Hydrogen and Oxygen
   ii. Carbohydrates are the polyhydroxy derivatives of aldehydes and ketones iii. Carbohydrates are polyhydroxy acetals and ketals

Which of the above statements is/ are correct?

a. 2 only b. 2 and 3 c. 1 and 2 d. 1,2 and 3

10. Due to the presence of one or more asymmetric carbon atom, stereoisomerism is found in carbohydrates except

a. Dihydroacetone b. Glyceraldehyde

c. Talose d. Mannose

11. Two sugars differing only in configuration around one specific carbon atom are called

a. Anomers b. Epimers c. Isomers d. Conformers

12. Which of the following pairs of carbohydrates are anomers of each other?

a. a Glucose and P fructose b. a Glucose and P glucose

c. a Glucose and a mannose d. All of the above

13. Which of the following pairs of carbohydrates epimers of each other

a. D glucose and D mannose b. D glucose and D galactose

c. D Ribose and D arabinose d. All of the above

14 When a and p isomers of glucose are dissolved in water, the optical rotation of each

gradually changes with time and approaches final equilibrium value of

a. $[a]^{20}_{D} = + 52.7°$ b. $[a]^{20}_{D} = + 98.3°$

c. $[a]^{20}_{D} = -52.7°$ d. $[QC]^{20}_{D} = - 98.3*$

15. This change in the optical activity of the racemic mixture is called

a. Reversion b. Mutarotation

c. Inversion d. Isomerization

16. Formation of pyranoses or furanoses are a special case of a more general type of reaction between aldehydes and alcohols to form a

a. Acid b. Hemiacetals c. Hemiketals d. Ethers

17. Isomeric forms of monosaccharides that differ in from each other only in configuration about carbonyl alcohol are

a. Anomers b. Epimers c. Isomers d. Conformers

18. Which of the following statement is correct?

a. The equatorial hydroxyl group of pyranoses are easily esterified than axial

b. The boat form of the pyranose ring, which is relatively rigid and more stable than the chair form, predominates in aqueous solution of hexoses

c. Monosaccharides are sensitive to hot dilute mineral acids

d. All of the above

19. Concentrated acids causes
    a. Dehydration of sugars
    b. Formation of furfurals
    c. Formation aldehyde derivatives of furan
    d. All of the above

20. Furfurals condense with phenols like orcinol
    a. To rehydrate to form respective sugars
    b. To give characteristic coloured product
    c. To form a volatile aromatic compound
    d. None of the above

21. Aldopyranoses readily react with alcohols in the presence of mineral acids to form
    a. Furfurals
    b. Glucose and alcohols
    c. Uronic acid
    d. anomeric a and p. glycosides

22. Which of the following statements is/are correct?
    a. Treatment of methyl a - D gluco- pyranoside with perchloric acids cleaves the pyranose ring to yield a dialdehyde and formic acid
    b. Glycosides are asymmetric mixed acetals formed by the reaction of anomeric C atom of the intermolecular hemiacetals with a hydroxyl group furnished by an alcohol. This is called glycosidic bond
    c. Aldoses and ketoses react with ammonia in an appropriate solvent to form N glycosides or N glycosylamine
    d. None of the above

23. Monosaccharides in slightly acidic solution at 100 °C react with excess
    phenylhydrazine to form
    a. Sugar alcohols
    b. Glycosides
    c. Glycosylamim
    d. Osazone

24. Which of the following pairs of sugars gives same osazone ?
    a. Glucose and mannose
    b. Glucose and fructose
    c. Fructose and mannose
    d. All of the above

25. What is phytic acid?
    a. Hexaphosphoric acid of inositol
    b. Potassium salt of hexaphosphoric acid
    c. Phosphorus associated with mannitol
    d. Phosphoric acid of sorbitol

26. What is phytih?
    a. Phosphorus associated with mannitol
    b. Phosphoric acid of sorbitol
    c. Calcium salt of phytic acid
    d. A polymer of phytic acid

27. With the oxidation of aldehydic carbon of glucose, compound formed is
    a. Fructonic acid
    b. Gluconic acid
    c. Glucouronic acid
    d. Frutburonic acid

28. With the oxidation of aldehydes and 1° hydroxyl group carbon of galctose compound formed is
    a. Galactouronic acid
    b. Galactonic acid
    c. Galactaric acid
    d. None of the above

29. With the oxidation of 1° carbon of mannose, the acid formed is
    a. Mannouronic acid
    b. Mannaric acid
    c. Mannoic acid
    d. All of the above

30. Which vitamin is the example of sugar acids?
    a. Vitamin A b. Vitamin C c. Vitamin D d. Vitamin E

31. Sugar capable of reducing ------— ---- — are called reducing agents
    a. Cu^{2+}
    b. Ag^{+}
    c. Ferricyanide
    d. All of the above

3.2. In which of the following lipo-proteins, the major portion is cholesterol?
    a. VLDL
    b. LDL
    c. HDL
    d. All of the above

33. N acyl derivative of nuraminic acid are generally called
    a. Phytic acid b. Muramic acid c. Sialic acid d. Uronic acid

34. In disaccharides two monosaccharides are joined together by
    a. Glucosidic bond
    b. Glyscosidic bond
    c. Disulphide bond
    d. Hydrogen bond

35. In a sucrose molecule
    a. Two glucose molecules are present
    b. Two fructose molecules are present
    c. One glucose and two fructose molecules are present
    d. None of the above

36. Strecker degradation can be seen during
    a. Protein biosynthesis
    b. Maillard reaction
    c. Nucleotide metabolism
    d. None of the above

37. Sucrose molecule is a disaccharide in which two monosaccharide are joined together by
    a. ot-1,4 glycosidic bond
    b. P- 1,4 glycosidic bond
    c. *a* - 1,2 glycosidic bond
    d. P- 1,2 glycosidic bond

38. Which of the following statement is / are not correct?
    a. Sucrose does not undergo Mutarotation
    b. Sucrose is reducing sugar .
    c. Sucrose does not react with phenylhydrazine to form osazone
    d. All of the above .

39. Palatinose is isomer of sucrose and differ from it in having
    a. p- 1,2 glycosidic bond
    b. a-1,4 glycosidic bond
    c. a- 1,6 glycosidic bond
    d. p- 1,6 glycosidic bond

40. Honey contains which of the following sugar
    a. Levulose
    b. Fructose
    c. Both a and b
    d. None of the above

41. Which of the following is liquefying enzyme?
    a. a-amylase ,
    b. p-amylase
    c. both
    d. none

42. Lactose is
    a. Monosaccharide
    b. Disaccharide
    c. Oligosaccharide
    d. Polysaccharide

43. Which of the following is the saccharifying enzyme?
    a. a- amylase
    b. p- amylase
    c. both
    d. none

44. Which of the following compound/s do you expect at the end of Strecker degradation?
    a. Acid
    b. Ester
    c. Aldehyde
    d. All of the above

45. Which of the following is/ are storage polysaccharide?
    a. Dextran
    b. Fructan
    c. Starch
    d. All of the above

46. Which of the following is/are the structural polysaccharide?
    a. Chitin
    b. Cellulose
    c. Lignin
    d. All of the above

47. Hemicelluloses are
    a. Isomers of cellulose
    b. Derivatives of cellulose
    c. Polymer of Xylose
    d. Polymer of Talose

48. Which of the following is the polymer of aromatic alcohol?
    a. Lignin
    b. Hemicellulose
    c. Pectin
    d. None of the above

49. Which of the following is having the branching with a- 1,6 glycosidic bond?
    a. Pectin
    b. Amylose
    c. Amylopectin
    d. Lignin

50. Which of the following polymers is/are present in bacterial cell wall?
    a. Techoic acids
    b. Polysaccharide
    c. Polypeptide
    d. All of the above

51. Which of the following statement is/ are correct?
    a. Sugar competes with starch for available water
    b. Sugar in its higher concentration may even prevent gelatinization process
    c. Sugar increases the required temperature for gelatinization
    d. All the above

52. Disaccharide produced after hydrolysis of celluloses is/ are
    a. Glucose
    b. Maltose
    c. . Cellubiose
    d. All of the above

53. When valine is heated with glucose at 180°C the flavour produced is/are
    a. Chocolate
    b. Bread like
    c. Caramel
    d. All of the above

54. Which of the following sugars is/are non-reducing?
    a. Sucrose
    b. Celluiose
    c. Maltose
    d. All of the above

55. Raffinose is made up of
    a. Galactose, glucose and fructose
    b. Mannose, glucose and galactose
    c. Mannose, galactose and fructose
    d^ Glucose, fructose and sucrose

56. The most common carbohydrate monomer is
    a. Maltose b. Lactose c. Glucose d. Galactose

57. Simplest form of carbohydrate is
    a. Carbon b. Starch
    c. Monosaccharides d. Cane sugar

58. The increase in volume, viscosity and translucency of starch granules when they are heated in a liquid is called
    a. Retrogradation b. Dextrinization
    c. Gelatinization d. Inversion

59. Starch used in frozen foods should contain
    a. High amylose
    b. Less amylose
    c. Amylose content dose not make any difference
    d. . Less amylopectin

60. Which of the following statement is/ are correct?
    a. Retrogradtion of starch decreases its sweetness
    b. Inversion of the sucrose is isomerization of sucrose
    c. A fluid starch paste is called sol, while a semisolid is known as a gel
    d. All of the above .

61. Which of the following is/are responsible for the delay in gelatinization
    a. Fat b. Protein
    c. Sugar d. All of the above

62. The seepage of water out of an aging gel due to contraction of the gel is called
    a. Retrogradation *b. Weeping
    c. Syneresis d. All of the above

63. The product of heating of sugar above its melting point in acidic condition is
    a. Fructose b. Carbondioxide
    c. Caramel d. None of the above

64. Which of the following statement is / are correct?
    a. Retrogradation is accelerated by freezing
    b. Amylopectin involves in retrogradation
    c. Amylose is having a-1,6 bonding
    d. All of the above

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65. The starch used in frozen products should contain less amylose to avoid
    a. Inversion b. Hydrogenation
    c. Gelatinization d. Retrogradation

66. Which of the following is/ are under the subdivision of Resistant starches
    a. Physically inaccessible starches b. Resistant starches
    c. Retrograded starches d. All of the above

67. The break of starch molecules to smaller, sweeter tasting dextrin molecules in the presence of dry heat is called
    a. Inversion b. Gelatinization
    c. Dextrinization d. Retrogradation

68. Modification of starches may affect the starch's
    a. Gelatinization and heating time
    b. freezing stability and cold water solubility
    c. viscosity
    d. All of the above

69. A small amount of starch, that is not digested in small intestine is called
    a. Modified starch b. Gelatinized starch
    c. Resistant starch d. Dextrified starch

70. Those starches granules which trapped in the food that are prevented from gelatinization are called
    a. Physically inaccessible starches b. Resistant starches
    c. Retrograded starches d. All of the above

71. A sauce that serves as the spring board from which other sauces are prepared
    a. Small sauce b. Primary sauce
    c. Mother sauce d. Secondary sauce

72. Which lipid is saponifiable
    a. Simple b. Complex
    c. Both a and b d. None

73. Which lipids does not contain fatty acids
    a. Simple b. Complex c. Both a and b d. None

74. Phosphoglycerides are the example of
    a. Simple lipid b. Complex lipid c. Carbohydrates d. Steroids

75. Steroids comes under which of the following categories of lipids

a. Simple
b. Complex
c. Both a and b
d. None

76. Waxes comes under

a. Simple
b. Complex
c. Both a and b
d. None

77. Which of the following is the essential fatty acid?

a. Stearic acid
b. Linolenic acid
c. Laurie acid
d. Palmitic acid

78. Unsaturated fatty acids predominates over the saturated one, particularly in higher plants and in animals living in low temperature

a. Above statement is true
b. Above statement is false and it would be true at high temperature
c. Above statement is false and would be true is in place of saturated fatty acid there is unsaturated fatty acid and vice versa
d. Above statement can not be true in any condition

79. Cellulose L form have

a. Triclinic structure
b. Monoclinic structure
c. Hexagonal structure
d. Pentagonal structure

80. Number of carbon atom in stearic acid is

a. 12 b. 16 c. 18 d. 20

81. Which of the following is polyunsaturated fatty acid?

a. Stearic acid
b. Linolenic acid
c. Laurie acid
d. Oleic acid

82. In Strecker degradation, during maillard reaction, the amino acids usually reacts with

a. a dicarbonyl compounds
b. Glucose
c. Fats
d. Schiff base

83. Butter scotch aroma can be obtained by heating glucose with-------- at 180 °G

a. Glutamine b. Valine c. Glycine d. Leucine

84. The parent compound of the phosphoglycerides is

a. Phosphatidic acid
b. Phosphoric acid
c. Glycerol
d. Glyceric acid

85. Kind of lipid that is most abundant in the cell membrane is
    a. Cholestrol b. Glycolipid
    c. Phospholipids d. Waxes

86. a linolenic acid [ALA] is
    a. co - 2 fatty acid b. GO - 3 fatty acid
    c. co — 4 fatty acid d. co - 6 fatty acid

87. EPA is
    a. Eicosapentaenoic acid b. Eicosapentanoic acid
    c. Ethylpentaenoic acid d, Ethylpentanoic acid

88. EPA is
    a. 03 - 2 fatty acid b. co - 3 fatty acid
    c. co - 4 fatty acid d. co - 6 fatty acid

89. DHAis
    a. co - 2 fatty acid b. co - fatty acid
    c. co - 4 fatty acid d. co -6 fatty acid

90. DHAis
    a. Docosahexaenoic acid b. Docosahexanoic acid
    c. Docosaheptaenoic acid d. Docosaheptanoic acid

91. Which of the following is marine- derived co - 3 fatty acid?
    a. DHA b. ALA
    c. Linoleic acid d. All of the above

92. Which of the following is marine- derived co - 3 fatty acid?
    a. ALA b. Linoleic acid
    c. EPA d. All of the above

93. Which of the following is Plant derived co - 3 fatty acid?
    a. ALA b. Linoleic acid
    c. EPA d. All of the above

94. Linoleic acid is
    a. co - 2 fatty acid b. co - 3 fatty acid
    c. co - 4 fatty acid d. co - 6 fatty acid

95. ALA is the precursor of
    a. EPA b.DHA c. Both a and b
    d. None

96. Vegetable oils are rich in

a. co -3 fatty acid
b. co - 4 fatty acid
c. co - 5 fatty acid
d. co - 6 fatty acid

97. The ratio of co - 6 to co -3 fatty acid will increase if the diet contains

a. Less amount of Fish oil
b. More amount of fish oil
c. Less amount of vegetable oil
d. More amount marine derived oil

98. Arachidonic acid contains---------- carbon atom

a. 16
b. 18
c. 20
d. 22

99. Which of the following essential fatty acid can be synthesized in body?

a. Linoleic acid
b. Linolenic acid
c. Arachidonic acid
d. None of the above

100. Essential fatty acid serve as precursors of

a. Vitamin C
b. Prostaglandin
c. Niacin
d. Retinol

101. Most of the unsaturated fatty acids are in cis - geometrical configuration. But there are certain exceptions like

a. Lactobacillic acid
b. Tuberculostearic acid
c. Cerebronic acid
d. All of the above

102. Cis configuration of the double bonds produces a bond of angle

a. 25°
b. 30°
c. 35°
d. 40°

103. Trans form of oleic acid is

a. Linoleic acid
b. Linolenic acid
c. Elaidic acid
d. Oleic acid is in itself trans form

104. Oleic acid can be transferred into its trans form upon

a. Cooling
b. Heating
c. Solidification
d. Hydrogenation

105. Triglycerides, which are solid at room temperature are often referred as

a. Fat
b. Oil
c. Steroids
d. Waxes

106. Triglycerides, which are liquid at room temperature are often referred as

a. Fat
b. Oil
c. Steroids
d. Waxes

107. During thin layer chromatography, for the separation of saturated and unsaturated fatty acids, compound used to bind with unsaturated acylglycerols is

a. Ammonium bicarbonate b. Silver Nitrate

c. Calcium oxalate d. Potassium diehromate

108. Castor seed is rich in

a. Ricinoleic acid b. Oleic acid

c. Linolenic acid d. Linoleic acid

109. Glyeosylacylglycerols contains sugar. This sugar molecule is bound to glycerol by

a. Peptide linkage b. Glycosidic bond

c. Hydrogen ^bond d. Disulphide bond

110. The parent compound in phophoglycerides is

a. Phosphoric acid b. Phosphoric ester of glycerol ''

c. Phosphoric ester of Fatty acid d. Glycerol

111. The nitrogen containing compound in cephalin is *[UICT'05]*

a. Guanine b. Ethanolamine

c. Choline d. Ammonium acetate

112. Ovomucoid is the protein found in

a. Fruits b. Vegetables c. Milk d. Egg

113. The nitrogen containing compound in lecithin is

a. Guanine b. Ethanolamine

c. Choline d. Ammonium acetate

114. Which of the following acts as zwitterions at pH 7.0

a. Sialic acid b. Sphingomylins

c. Ceramide d. Cerebroside

115. Hydrolysis of triglycerides with alkali is called

a. Titration b. Hydrogenation

c. Saponification d. Rancidity

116. Major component of beewax is

a. Palmitic acid b. Oleic acid c. Stearic acid d. Linolenic acid

117. Ovomucoid is found to be

a. Antibiotic in nature b. Trypsin inhibitor

c. Hemaglutination inhibitor d. Iron binder

118. Which of the following is *wool fat*

a. Shingosine
b. Sialon
c. Lanolin
d. Ceramides

119. Lnolin is a mixture of fatty acid esters of the sterols

a. Cholesterols
b. Agnosterols
c. Ergesterols
d. All of the above

120. Which fatty acids are more odorous

a. Low molecular weight fatty acids
b. Medium molecular weight fatty acids
c. High molecular weight fatty acids
d. All are equally odorous

121. Iodine value measures

a. Degree of unsaturation
b. Degree of saturation
. c. Amount of carbon present
d. Number of Iodine present

122. What is dilatometry?

a. Measurement of degree of unsaturation of fatty acids
b. Measurement of degree of hydrogenation
c. Measurement of melting point of fats
d. Measurement of crystallinity of fats

123. Which of the following gives the value of free fatty acids present in fat?

a. Iodine value
b. Acid value
c. Saponification value
d. Peroxide value

124. Which of the following is said to be hemaglutination inhibitor?

a. Lysozyme
b. Ovomucin
c. Avidin
d. Conalbumin

125. With the increase in temperature, the rate of browning reaction

a. Increases
b. Decreases
c. Remain constant
d. First decreases and then increases followed by a constant phase

126. Peroxide value is the measure of

a. Degree of unsaturation
b. Degree of saturation
c. Amount of carbon present
d. . Degree of oxidation

127. The average molecular weight of fatty acid is determined by
   a. Iodine value
   b. Acid value
   c. Saponification value
   d. Peroxide value

128. Hydrolytic rancidity of fat requires
   a. Oxygen
   b. Moisture
   c. High temperature
   d. Both b and c

129. Final product of rancidity is
   a. Oxides
   b. Peroxide
   c. Hydroperoxides
   d. Carbon dioxide

130. Which vitamin is absent in egg?
   a. Vitamin A
   b. Vitamin C
   c. Vitamin D
   d. Vitamin K

131. Rancidy is progressed through the formation of
   a. Free radicals
   b, Carbocations
   c. Carboanions
   d. Carbenes

132. For hydrogenation of oils, the catalyst required is
   a. Iron
   b. Aluminum
   c. Nickel
   d. Magnesium

133. Hydrogenation of oils is carried out in a vessel called
   a. Hydrogenator
   b. Converter
   c. Reverter
   d. Condensor

134. Hydrogenation is addition of hydrogen to ----------in presence of some catalyst
   a. Saturated fatty acids
   b. Unsaturated fatty acids
   c. Both a and b
   d. None

135. Trans fatty acids are found in some plant oils such as
   a. Pomegranate oil
   b. Mustard oil
   c. Coconut oil
   d. Citrus oil

136. Conalbumin is said to bind with
   a. Iron
   b. Calcium
   c. Cobalt
   d, Avidin

137. The development of hydrogenation process is credited to French chemist
   a. Appart b. Lohmann c. Sabatier d. Oldman

138. Which of the following sugars do you expect to have higher affinity for non enzymic browning?

a. Aldohexoses
b. Aldopentoses
c. Disaccharides
d. Non reducing sugars

139. Which of the following statements is/are correct?

a. Old or poisoned catalysts produce finished product with higher levels of trans fatty acids
b. Trans fatty acids are having low melting point than their respective cis form
c. Hydrogenation form cis form of the fatty acids
d. All of the above

140. Among the toxic fatty acid____ has received the greatest attention

a. Elaidic acid
b. Erucic acid
c. Myristic acid
d. Lignoceric acid

141. Roquefortine is

a. Bacterial toxin
b. Mycotoxin
c. Antinutritional factor
d. A fermented product

142. Which of the following is the biotin binder?

a. Avidin
b. Aflatoxin
c. Gossypol
d. Ovalbumin

143. Roquefortine is found in

a. Cheese
b. Meat
c. Egg
d. Fruits

144. Which of the following pigments is responsible for the yellow colour in corn ?

a. Xanthophyll
b. Chlorophyll
c. Carotenoids
d. Cryptoxanthan

145. Gelatin is

a. Product obtained from agar - agar
b. Partially degraded protein
c. Important constituent of jelly responsible for its characteristic gel structure
d. None of the above .

146. Gelatin is obtained from

a. Bones, skin and ligaments
b. Egg shell
c. Agar - agar
d. Papaya

147. When colloidal dispersion of some relatively large molecules are cooled, the viscosity increases to a point at which some rigidity is attained. This point is called

a. Gel point
b. Viscous point
c. Coagulation point
d. None of the above

148. Rocky candy aroma is obtained when glucose reacts with

a. aspartic acid
b. lauric acid
c. sulphuric acid
d. citric acid

149. Most abundant mineral present in the egg shell is

a. Iron
b. Magnesium
c. Zinc
d. Calcium

150. Snake venom phopholipase is used for the determination of

a. Degree of unsaturation of fatty acids
b. Positional distribution of fatty acids in acylglycerol molecules
c. Stability of triglycerides
d. All of the above

151. Which protein fraction of egg is having the antibiotic property

a. Lysozyme
b. Ovomucoid
c. Ovomucin
d. Avidin

152. If we consume an egg product which of the following nutrient will be absent in it

a. Fat
b. Calcium
c. Ovalbumin
d. Vitamin A

153. Which of the following motilities is / are not of concern in the contex of food stability?

a. Transitional
b. Rotational
c. Vibrational
d. All of the above

154. Agar is

a. Polypeptide
b. Polysaccharide
c. Polyphenol
d. Poplyflavone

155. The temperature at which the solution remains in the equilibrium with crystalline solvent and the crystalline solute is

a. Transition temperature
b. Crystalline temperature
c. Eutectic temperature.
d. Melting temperature

156. A substance incorporated into a polymeric material to increase its deformability is called

a. stabilizer b. emulsifier* c. destabilizer d. plasticizer

157. Which of the following statements is / are correct?

a. A true solvent is always a plasticizer
b. A plasticizer is always a true solvent
c. A plasticizer increases the glass transition temperature of a polymer
d. All of the above

158. Subtle changes in the structure, which do not drastically alter the molecular architecture of protein, are usually regarded as

a. Conformational adaptability b. Denaturation
c. Putrefaction d. Emulsification

159. Which of the following statements is / are correct?

a. Partially denatured proteins are more digestible
b. Partially denatured proteins are having better emulsifying property
c. Partially denatured proteins are having better foaming properties
d. All of the above

160. What is the meaning of" two - state transition" of globular proteins?

a. Globular protein can exists only in the native and denatured states
b. Globular proteins at their isoelectric point transit from globular to fibrous form
c. Globular proteins can be present in two forms - solid and liquid at transition temperature
d. None of the above

161. Which of the following temperatures is/ are correct?

a. Proteins of the thermophilic organisms usually contains large amount of hydrophobic amino acids residues.
b. Thermal denaturation of monomeric globular proteins is mostly reversible
c. Dry proteins powders are extremely stable to thermal denaturation
d. All of the above

162. The protein portion of the myoglobin is called

a. Heme b. Globin
c. Flavone d. Myoglobin does not contain any protein

163. How many myoglobin molecules are linked together in a hemoglobin molecule?

a. Two b. Three c. Four d. Five,

164. Increase in the number of-OH group attached to the anthocyanin
   a. Increases its reddish colour
   b. Decreases its reddish colour
   c. Increases its blue colour
   d. Increases both reddish and bluish colour

165. Anthocyanins are stable at
   " a . Neutral pH
   b. Acidic pH
   c. Basic pH
   d. Independent of pH

166. Naturally anthocyanins are present in
   a. Four forms
   b. Eight forms
   c. Sixteen forms
   d. Thirty two forms

167. Which of the following is/are the mode of non enzymic browning in food?
   a. Caramelization
   b. Maillard reaction
   c. Ascorbic acid oxidation
   d. All of the above

168. Which of the following is / are the functions of anthocyanins?
   a. Antioxidant
   b. Colorant
   c. Anticancer
   d. All of the above

169. Which of the following statements is/ are correct with respect to the pigments?
   a. Flavonoids are water soluble pigment
   b. Basic structure of carotenoids is isoprene
   c. Blair process is used to retain green colour of the chlorophyll during processing
   d. All of the^above

170. Colorant used in butter is
   a. Annato
   b. Erythrosine
   c. Congo red
   d. None of the above

171. The chemically annato is
   a. carotenoids
   b. Flavonoids
   c. Heme pigments
   d. None of the above

172. Bixin is used as colorant in
   a. Chocolate
   b. Cola beverages
   c. Butter
   d. All of the above

173. Which of the following statements is/are correct?
   a. Anthocyanin contains sugar molecule
   b. Anthocyariidin contains sugar molecule
   c. Glycosylation of anthocyanin increases the wavelength of the absorption spectra
   d. All of the above

174. A fruit discolouration problem referred to as "pinking" is the result of
   a. Microbial spoilage of the product
   b. Formation of metal anthocyanin complex
   c. Biochemical changes in the fruits
   d. None of the above

175. Amadori rearrangement is found during
   a. Protein biosynthesis . b. Fat P oxidation
   c. Maillard reaction d. Kreb cycle

176. "Pinking" can be avoided by
   a. Blanching. b. AR enamel
   c. Treatment of frits with vinegar d. Blairs process

177. The compound formed at elevated pH by the reaction between ammonia and magnesium in case of pea is
   a. S,truvite b. Magnetite
   c. Appetite d. Siderite

178. Thermal degradation of glutamine leads to the formation of
   a. Pyrrolidone citric acid b. Pyrrolidone carboxylic acid
   c. Pyrrolidone acetic acid d. Pyrrolidone malic acid

179. Increase in acidity of vegetable during the thermal processing is due to
   a. Formation of pyrrolidone carboxylic acid
   b. Degradation of chlorophyll
   c. Decrease in natural buffer
   d. All of the above

180. Which of the following relationship regarding the rate of thermal destruction is correct?
   a. Chlorophyll a < chlorophyll b < *Clostridium botulinum*
   b. Chlorophyll b < chlorophyll a < *Clostridium botulinum*
   c. Clostridium botulinum < chlorophyll a < chlorophyll b
   d. Clostridium botulinum < chlorophyll b < chlorophyll a

181. Compound formed by the action of chlorophyllase on chlorophyll is
   a. Pheophytin
   b. Pheophorbi.de
   c. Chlorophyllide
   d. Mesochlorophyll

182. Which of the following statements is correct?
   a. Mesochlorophyll and chlorophyll differ only in terms of - CH_3 group
   b. Mesochlorophyll and chlorophyll differ in terms of- CHO group
   c. Mesochlorophyll and chlorophyll differ in terms of Mg ion
   d. Mesochlorophyll and chlorophyll differ in terms of phytol chain

183. After the removal of Mg ion from chlorophyll, the compound formed is
   a. Pheophytin
   b. Pheophorbide
   c. Chlorophillide
   d. Mesochlorophyll

184. If both Mg ion and phytol chain are removed from chlorophyll, the compound formed is
   a. Cheophytin
   b. Pheophorbide
   c. Chlorophillide
   d. Pyrophorbide

185. Chlorophillide differs from chlorophyll on the basis that former lacks
   a. Mg ion
   b. Phytol chain
   c. Both a and b
   d. None of the above

186. At low pH, chlorophyll degrades to
   a. Pheophytin
   b. Pyrrolidone carboxylic acid
   c. Pyropheophytin
   d. Mesochlorophyll

187. Colour of the compound formed after the removal of Mg ion from chlorophyll is
   a. Green
   b. Olive green
   c. Brown
   d. Black

188. Schiff base is the intermediate formed during
   a. Caramelization
   b. Ascorbic acid oxidation
   c. Enzymic browning
   d. Maillard reaction

189. Commercially available copper complex of chlorophillide, used as food colorant is
   a. Copper chlorophyll
   b. Copper chlorophillide
   c. Copper chlorophyllin
   d. Copper chlorophytin

190. "Regreening'\ of thermal processed vegetables is
   a. Formation of the bright green colour
   b. Loss of green colour
   c. Gaining green colour after its loss
   d. None of the above

191. The metal ion used in Veri- green process is

a. Sodium b. Magnesium

c. Zinc d. Calcium

192. Green colour in vegetables processed in the presence of zinc is largely due to the presence of

a. Zinc pheophytin b. Zinc chlorophillide

c. Zinc pheophorbide d. Zinc pyropheophytin

193. Which of the following carotenoids show/s pro-vitamin A activity?

a. P- carotene b. a- carotene

c. P- cryptoxanthin ; d. All of the above

194. Who explained the structure of protein?

a. Emil Fischer b. Pauling and Corey

c. R.F.Rose d. Johnson and Cristae

195. Primary structure of proteins is/are -

a. Open chain b. Cyclic

c. Branched chain d. All of the above

196. In cyclic primary structure of protein

a. There is no terminal - COOH group

b. There is one terminal-COOH group

c. There are two terminal - COOH group

d. Any of the above

197. Which of the following proteins has /have cyclic primary structure?

a, Tyrosidin b. Ubiquitin

c. Keratin d. All of the above

198. Maximum value of psi angle in the peptide bond is

a. -40° b. -50° c. -60° d. -70°

199. The trans - cis transformation of the peptide bonds is easier if the peptide contain which of the following amino acids

a. Tryptophan b. Methionine

c. Proline d. Isoleucine

200. The peptide bond has

a. Planar structure b. Angular structure

c. Tetrahedral structure d. Pyramidal structure

201. Which of the following secondary structures of protein is/ are helical

a. a
b. 3_{10}
c. Tl
d. All of the above

202. The number of the amino acids per turn of the a helical structure is

a. 3.0 b. 3.2 c. 3.4 d. 3.6

203. The angle of rotation per residue in a helical structure of protein is

a. 100° b. 120° c. 150° d. 260°

204. Hemicelloses are

a. Isomers of cellulose
b. Acid derivative of cellulose
c. Modified cellulose
d. None of the above

205. Which amino acid is considered to be the helix breaker?

a. Cysteine
b. Methionine
c. Tyrosine
d. None of the above.

206. Hydrogen bond present in the a helical structure of proteins is

a. Parallel to the axis of helix
b. Perpendicular to the axis of helix
c. At an angle of 100 ° to the axis of the helix
d. At any direction depending on the position and amino acids

207. Which of the following statements is / are true?

a. P- sheet-structure of the protein is more stable than a helical form
b. Protein that contain large fractions of p-sheet structure have low temperature of denaturation
c. Polypeptide containing alternate polar and non polar amino acids tend to form p sheet structure
d. All of the above

208. Hair pin bend in P sheet of protein tends to form

a. Parallel p sheet
b. Antiparallel p sheet
c. n helical structure
d. p structure

209. Cross over bend in P sheet of protein tends to form

a. Parallel p sheet
b. Antiparallel p sheet
c. a helical structure
d. *J*\ structure

210. Polymerization of fat during heating or deep fat frying causes

a. Decrease in iodine value
b. Increase in viscosity
c. Increase in refractive index
d. All of the above

211. Pancreatic lipase is used for the determination of
   a. Degree of unsaturation of fatty acids
   b. Positional distribution of fatty acids in acylglycerol molecules
   c. Stability of triglycerides
   d. All of the above

212. The basic compound involved in maillard reaction is
   a. Fat and sugar
   b. Sugar and vitamins
   c. Sugar and amino acid
   d. Fat and amino acid

213. Which of the following acts as photosensitizer in food to produce singlet oxygen?
   a. Cholorophyll a
   b. Pheophytin a
   c. Erythrosine
   d. All of the above

214. Dominant sugar present in hemicellulose is
   a. Glucose
   b. Fructose
   c. Xylose
   d. Ribose

215. Diel - Alder reactions are involved in
   a. Estimation of tryptophan
   b. • Polymerization of fat during deep fat frying
   c. Non - enzymic browning
   d. None of the above

216. CMC is
   a. Carboxy methyl cellulose
   b. Cellulose manufacture centre
   c. Critically modified cellulose
   d. None of the above

217. Which of the following is/are the browning reaction occurring in food?
   a. Ascorbic acid oxidation
   b. Maillard reaction
   c. Caramelization *
   d. All of the above

218. Which of the following acts as prooxidants?
   a. Divalent metals
   b. Monovalent gases
   c.
   d. All of the above

219. Which form of agar have gelling property?
   a. Agarose
   b. Agaropectin
   c. Both a and b
   d. Neither a nor b

220. Bond found in alginates is
   a. a-1,4 and P-1,4
   b. a-1,4 and P-1,6
   c. a-1,6 and P-1,4
   d. a-1,6 and p-1,6

221. Which fatty acid is the most susceptible to flavour reversion?
   a. Stearic acid
   b. Laurie acid
   c. Palmitic acid
   d. Linolenic acid

222. Soyabean oil shows some beany flavour. It may be due to
   a. Microbial degradation
   b. Rancidity
   c. Reversion
   d. Putrefaction

223. Agar is obtained from
   a. Red algae
   b. Gymnosperms
   c. Insects
   d. Bacteria

224. Agarobiose is
   a. Monosaccharide
   b. Disaccharide
   c. Trisaccharide
   d. Polysaccharide

225. Which of the following is / are the proposed mode of action of antioxidants used in fats and oils?
   a. Antioxidants quenches the free radicals thus stopping the propagation of free radicals for further deterioration
   b. Antioxidants binds with the fatty acid at their double bond site thus making double unavailable for the attack by oxygen
   c. Antioxidants react with the oxygen thus making the latter unavailable for the fatty acids
   d. Antioxidants reacts with the hydroperoxides thus removing the chance of further deterioration

226. Which of the following is/are used as the antioxidants in fats and oil processing?
   a. Calcium propionate
   b. Butylated hydroxy hydrazine
   c. Butylated Tiydroxyl anisole
   d. All of the above

227. Which of the following is / are natural antioxidant present in oil?
   a. Butylated hydroxy anisole
   b. Tocopherol
   c. Ascorbic acid
   d. All of the above

228. Which of the following acts as the synergistic?
   a. Citric acid
   b. Acetic acid
   c. Benzoic acid
   d. Formic acid

229. Agar is obtained from
   a. *Gelidium spp.*
   b. *Pseudomonas spp.*
   c. *Aspergillus spp.*
   d. None of the above

230. Propyl gallate is used in fat/ oil processing industry as
a. Synergistic b. Plasticizer c. Emulsifier d. . Antioxidants

231. Saponificatioh index is useful in expressing
a. Mean molecular weight of fats/oils
b. Degree of unsaturation of oil
c. Extend of rancidity
d. None of the above

232. Waxy starch have
a. More amylopectin and less amylose
b. More amylose and less amylopectin
c. Both amylose and amylopectin in equal amount
d. We can not generalize the statement

233. Starch gel is
a. Pseudoplastic b. Plastic c. Elastic d. Thixotropic

234. Use of agar is in
a. Microbiological experiment b. Bakery industry
c. Confectionary industry d. All of the above

235. Gelatinization of starch is
a. Endothermic process b. Exothermic reaction
c. Reversible d. Responsible for staling of bread

236. Alginnates have
a. Galactouronic acid and glucouronic acid
b. Galactouronic acid and mannouronic acid
c. Glucouronic acid and mannouronic acid
d. Galactouronic acid , glucouronic acid and mannouronic acid

237. Which of the following process is responsible for the staling of bread?
a. Gelatinization b. Retrogradation
c. Hydrolysis of starch d. All of the above

238. Which of the following statements is correct?
a. Retrogradation of starch is more if starch is having more amylopectin
b. Retrogradation of starch is more if starch is having more amylose
c. Retrogradation of starch is more if flour is having more lipid
d. None of the above

239. The product of enzymic browning is a. Melanin c. Caramel b. Melanoidins d. All of the above

240. Agar seems to decrease its gel strength, when pH changes
a. Acidity c. Neutrality b. Alkalinity d. It is independent of pH

241. End product of Maillard reaction is
a. Melanin b. Melanoidins
c. Caramel d. All of the above

242. Mailard reaction is favoured in more
a. Acidic conditions b. Alkaline conditions
c. Neutral conditions d. It is pH independent

243. Cellulose I_a form have
a. Triclinic structure b. Monoclinic structure
c. Hexagonal structure d. Pentagonal structure

244. In hard water, which of the following salts is/are present?
a. Sodium chloride b. Magnesium sulphate
c. Sodium bicarbonate d. All of the above

245. If buffers are present, the rate of browning reaction
a. Decreases b. Increases
c. Remains constant d. Can not be predicted

246. Maltodextrin have DE value a. Less than 5 c. Less than 50 b. Less than 20 d. More than 50

HUMAN NUTRITION AND VITAMINS

1. Recommended Vitamin E intake
   a. 0.6 mg of a tochopherol per gram of dietary saturated fatty acid consumed in food
   i _ & 0.6 mg of a tochopherol per gram of dietary unsaturated fatty acid consumed in food
   c. 0.6 mg of a tochopherol per gram of dietary polyunsaturated fatty acid consumed in food
   d. 0.6 mg of a tochopherol per gram of dietary fiber consumed in food

2. Which fatty acid helps in improvement of vision
   N^SU^DHA b. EPA
   c. Linoleic acid d. Stearic acid

3. A calorie is the amount of heat required to raise the temperature of ---------- of water through one degree Celsius
   ^^^ar^One gram b. One kilogram
   c. One pound d. One bucket

4. The SI unit to express the energy value of food is
   a. Kilo calorie b. Calorie
   Kilo joule d. Joule

5. The potential energy of foods and food components is determined by burning the food in a
   a. Converter \J*^ Bomb calorimeter
   c. Muffle furnace d. Hot air oven

6. Measurement of energy value of food is called
   M^T^Calorimetry b. Joulimetry
   c. Energymetry d. None of the above

7. Calorimetric value of protein is
   a. 4 kcal/g b. 4.7 kcal/g
   .*1* kcal/ g , d. 6.2 kcal/g

8. Upon consumption of one gram of protein we get
   kcal b. 4.7 kcal
   c. 5.7 kcal d. 6.2 kcal

9. Most fat are digested to an extend of

a. 90% b. 93%

d. 100%

10. Most abundant carbohydrate consumed by human population is

\£^ Sucrose b. Starch

cv Cellulose d. Lactose

11. Milk contains which of the flowing sugar

a. Sucrose b. Starch

c. Cellulose Wir Lactose

12. Lactose increases the retention of

sj&f Calcium b. Phosphorous

c. Iron d. Iodine

13. Carbohydrate from the foods consumed help the body use ---------- ——efficiently

[l]v#T Fat b. Protein

c. Vitamins d. Water

14. When fats are not oxidized completely, ---------- accumulates in blood

a. Glycerol b. Fatty acids

yC. Ketone bodies ' d. Acetyl coA

15. Disease due to accumulation of ketone bodies in the blood is called

a. Alkaptonurea y^ Ketosis

c. Cohn's disease d. Stephan's disease

16. A complete protein is one

a. Which does not undergo denaturation under in any condition

b. Which contains all of the essential fatty acids in required proportion

c. Which contains all amino acids in required proportion

V df Which contains all essential amino acids in required proportion

17. Which of the following is essential amino acid for adults

a. Phenyl alanine b. Alanine

* d. Histidine

18. The amount of protein required daily, which beyond early childhood may be of range

a. 10 - 50 g \>--40 - 60 g

c. 50-70g d. 60-80g

19. Which of the following protein is of high biological value

a. Soybean protein ^-^tfT Meat protein

c. Protein from legumes d. Protein from cereals

20. Protein from plant source are generally of high biological value and animal proteins are of less biological value

^£T Above statement is false b. Above statement is true

21. Vitamin K naturally occurs as ---------- of animal tissues, intestinal bacteria and other microorganisms

\^ar Phylloquinone b. Menaquinone

c. Napthoquinone d. Cystoquinone

22. Milk is deficient in

L-ar Methionine b. Phenylanaline

c. Valine d. Leucine

23. Which of the following dietary components helps in the growth of intestinal micro flora?

Carbohydrates b. Proteins

c. Vitamins d. pats

24. Which of the following dietary components helps in the growth of intestinal micro flora?

a. Dietary fiber b. Cellulose

c. Hemicellulose v»4*^ All of the above

25. Which vitamin is known to have antisterility factor in rats

a. Vitamin A b. Vitamin D

Vitamin E d. Vitamin K

26. Which of the following helps in fat absorbtion

a: Cephalin b. Lecithin

c. Cerebrosides Ut-^Both a and b

27. Which of the following explains the protein quality

a. Protein Efficiency Ratio b. Net protein retention

c. PDCAAS \JL^A11 of the above

28. Gain in weight per gram of protein eaten is

{^ar^Protein Efficiency Ratio b. Net protein retention

c. PDCAAS d. Digestibility

29. The proportion of absorbed nitrogen retained in the body after digestion of protein is ----------of protein]

a. Protein efficiency ratio b. PDCAAS
\x^~ Biological value d. Digestibility

30. Thiamine is destroyed by *[UICT '05]*

Sulfur dioxide b. Acetic acid c. Sorbic acid d. Ethylene

31. Cereals are deficient in

a. Methionine b. Phenylalanine c. Valine \j\^ Lysine

32. Protein utilization unit is

^^^Biological value X digestibility b. Biological value / Digestibility
c. Digestibility / Biological value . d. Biological value - digestibility

33. Vitamin A as such naturally occurs in

^a^Animals only b. Plant only
c. Both animals and plants d. Neither animals nor plants

34. Machine polished rice is responsible for

a. Xerophthalmia NJv^Beri - beri c. Rickets d. Scurvy

35. Vitamin A activity is expressed in terms of

a. International Unit b. SI unit
c. Retinol activity ^^.tf^Both a and c

36. A retinol activity is equal to 1 ig of retinol or

a. 4 jag of p carotene b. 5 jag of p carotene
xg of p carotene d. 7 *ig* of p carotene

37. Toad's skin is due to deficiency of

Vitamin A b. Vitamin B_2 c. Vitamin C d. Vitamin D

38. The daily requirement of Vitamin A is

1.5-1.8 mg b. 2.5-2.8mg c. 3.5-3.8mg d. 4.5 - 4.8 mg

39. Dry and scally skin disease in children is caused by the deficiency of

a. Vitamin D \b^^Essential fatty acids
c. Essential amino acids d. Magnesium

41. Diet excessive in polyunsaturated fats can lead to formation of peroxidised fatty acids that may reach harmful levels. There is evidence that_____prevents this
a. Vitamin A b. Vitamin D *c.* Vitamin E d. Vitamin K

42. Vitamin E favours the absorption of
a. Calcium b. Phosphorous cL-Iroir' d. Both a and b

43. Vitamin E is able to spare carotene and vitamin from ----------— destruction
a. Thermal b. Reductive ^-er—tXxidative d. Microbiological

44. Legumes are deficient in
e b. Phenylanaline c. Valine d. Leucine

45. Which of the following Vitamin is water soluble?
a. Vitamin A ^-4rTvitamin C c. Vitamin D d. Vitamin E

46. Which of the following vitamin is absent in fruits and vegetables?
Vitamin A b. Vitamin B c. Vitamin C d. None

47. Which of the following vitamin is synthesized by bacteria in human intestinal tract?
a. Vitamin A b. Vitamin C c. Vitamin D ^jd^Vitaipin K

48. Antibiotic therapy makes the person deficient of
a. Vitamin A b. Vitamin C c. Vitamin D ^jl^^Vitamin K

49. Vitamin responsible for blood clotting is
a. Vitamin B \b~^Vitamin K c. Vitamin C d. Vitamin A

50. Deficiency of which vitamin causes fragile capillary walls, easy bleeding of gums, loosening of teeth
a. Vitamin A \j2u--~Vitamin C c. Vitamin D d. Vitamin K

51. The food rich in ---------- should not be preserved by using sulfite salt or sulphur dioxide
Thiamin b. Ascorbic acid c. Riboflavin d. Cobalamine

52. Among the fat soluble vitamins, which vitamin is most potent toxic vitamin
a. Vitamin A \J^ vitamin D c- Vitamin E d. Vitaihin K

53. Which of the following is sensitive to light?
a. Thiamin b. Ascorbic acid \^*R^6o*flavin d. Cobalamine

54. Which of the following vitamin is absent in plant tissue?
a. Tocopherol b. Ascorbic acid ^i^Ketinol v d^^€obalamine

55. Which of the following is the commercial by product of antibiotic production?

a. Tocopherol b. Ascorbic acid

c. Biotin *jier* Cobalamine

56. Niacytin and leucin are

a. Vitamins b. Amino acids

Anti-vitamin compounds d. Pro-vitamins compounds

57. Which of the following is the anti-pernicious anemia factor?

a. Retinol b. Riboflavin c. Folic acid \^L- Cobalamine

58. Biotin is made unavailable by

a. Niacytin b. Gossypol\jcu~ Avidin d. Raffinose

59. Biotin is active in the metabolism of

a. Fatty acids b. Amino acids

c. Sugar acids \dL^*Both a and b

60. Thiazolidine is the product of heating of food containing pyridoxine and

a. Methionine b. Laurie acid

Cystein d. Alanine

61. Which of the following vitamin is absent in milk?

a. Vitamin A . b. Vitamin B

C d- None

62. — ---------- is found almost exclusively in the adipose cell fat droplet, all cell membranes and circulating lipoprotein

a. Vitamin A b. Vitamin C c. Vitamin D \£^ Vitamin E

63. Inositol and para- aminobenzoic acid are produced by the

a. pancreas \X intestinal microflora

c. liver d. leaves of plant

64. Irradiation of fungi produces which vitamin

a. Vitamin Dj \J&* Vitamin D_2

c. Vitamin D_3 d. None of the above

65. Acid - alkali reaction of the blood is controlled by

W^ Phosphorus b.

Iodine

c. Potassium d. Sodium

66. Which of the following interferes with the effective absorption of phosphorous in human being

a. Calcium b. Phytates c. Iron \MjjL*«^otr1 a anc* b

67. Calcium interferes with the active absorption of phosphorous because

a. Calcium gets absorbed inspite of phosphorous

tJ&r~ Calcium binds with phosphorous and precipitates

c. Calcium accelerates the conversion of phosphorous to phytates

d. All of the above

68. Which of the following mineral is important in maintaining electrical potential in nerves and membranes

a. Calcium ib^Magnesium c. Selenium d. Iron

69. For energy liberation during muscle contraction, which of the following'nutrient is required

a. Sodium *{Jeff* Magnesium c. Selenium d. Iron

70. NIN stands for

\jk**-National Institute of Nutrition b. National Inchage for Navy

c. National Industrial Network d. None of the above

71. Magnesium is required for the normal metabolism of

Wr Calcium and Phosphorous b. Iron and Copper

c. Vitamin A and C d. Amino acids and fatty acids

72. Copper aids in the utilization of— --------- and hemoglobin synthesis

Iron b. Magnesium c. Phosphorous d. Molybdenum

73. Which of the following pairs of ions helps in maintaining the osmotic equilibrium and body - fluid volume

a. Copper and Iron b. Calcium and Phosphorous

Sodium and Chloride d. Fluoride and Iodide

74. Manganese is needed for the normal

a. Bone formation b. Reproduction

c. Functioning of central nervous system \jI__All of the above

75. Chromium is required for

a. Protein metabolism \^r^Giucose metabolism

c. Fatty acid metabolism d. All of the above

76. Molybdenum is involved in
    a. Protein metabolism
    b. Glucose metabolism
    c. Fatty acid metabolism
    d. All of the above

77. PDCAAS stands for
    a. Protein Deficiency Control by Amino Acid Supplementation
    S^J&r Protein Digestibility Corrected Amino Acid Score
    c. Protein Deficiency and Chemical Analysis by Assay System
    d. Protein Digestibility and Chemical Amino Acid Solution

78. In nutritional sense, the vitamin A family include all naturally occurring derivatives of
    a. [3- carotene
    \Ja^ P- ionone
    c. Retinol
    d. a- retinol

79. The only known toxic manifestations of carotenoids intake is
    a. Hepatomegaly
    b. Canthaxanthin
    c. Abortion
    d. Hypokalemia

80. Which vitamin is known as "sunshine vitamin"
    a. Vitamin A
    b. -Vitamin C
    Xj^^Vitamin D
    d. Vitamin E

81. Which of the following combination would you advise the people to consume inorder to have balanced amount of all essential amino acids
    a. Bread + Butter
    ^^ Bread + Dal
    c. Rice + Dal
    d. Rice + Milk

82. Vitamin D_3 is also known as
    a. Retinol
    b. Tochopherol
    Cholecalciferol
    d. Ergocalciferol

83. Vitamin D_2 is also known as
    a. Retinol
    4 ^ , Tochopherol
    c. Cholecalciferol
    d. Ergocalciferol

84. Vitamin D_3 is synthesized photochemically by the action of sunlight or UV rays from the precursor
    a. 5 - dehydrocholesterol
    b. 6 - dehydrocholesterol
    7 - dehydrocholesterol
    d. 8 - dehydrocholesterol

85. RDA stands for
    a. Regional Dietary Advisor
    « \b^—Recommended Dietary Allowances
    c. Regional Drug Administrator
    d. Recent Dietary Advancement

86. On a chronic administration basis, current evidence suggests that the levels of intake of Vitamin D should not exceed

a. 5 times the RDA b. 10 times the RDA

c. 15 times the RDA d. 20 times the RDA

87. Toad's skin in caused due to deficiency of

t*—Vitamin b. Mineral

c. Protein d. Essential Fatty acids

88. Chromanol ring is basic ring structure of

a. Vitamin A b. Vitamin C c. Vitamin D |ji^.Vitamin E

89. The most common disorder associated with low plasma levels of vitamin E are

a. Hyperglycemia ^b^-Cystic fibrosis c. Hepatomegaly d. Night blindness

90. Large intakes of Vitamin E, interfere with the absorption of

a. Vitamin A b. Vitamin D c. Vitamin K i^dr^ Both a and c

91. Vitamin D deficiency in adults le'ad to

Rickets b. Osteoporosis c. Goitre d. Cretinism

92. NIN is situated at

a. New Delhi b. Nagpur c. Chenfiai ^-4*—Hyderabad

93. The K - group vitamins are derivatives of

yu— Phylloquinone b. Phytmenadione .c^Napthoquinone d. Cystoquinone

94. Vitamin K naturally occurs as ------- —-------——— of green plants

a. Phylloquinone b. Menaquinone

d. Cystoquinone

95. Single cell protein is undesirable due to

a. High content of oleic acid vjv^ High Content of uric acid

c. High content of citric acid d. High content of antinutritinal factor

96. BMI stands for

a. Basal Metabolic Index \J3^*^Body Mass Index

c. Body Metabolism Information d. Biotin Metabolic Index

97. Which of the following is water soluble?

a. Vitamin K_1 b. Vitamin K_2

Vitamin K_3 d. All of the above are fat soluble

98. Vitamin K_3 is also called

a. Phylloquinone b. Menaquinone

c. Napthoquinone \jj^ Menadione

99. What is RDA for Calcium ?

a. 400 mg b. 600 mg *j^ 800 mg d. 1000 mg

100. The hemorrhagic condition that results from dietary lack of Vitamin K is related to

\§^ Lower concentration of prothrombin, necessary for blood clotting

b. Increase concentration of heparin, the natural anticlotting agent

c. Decrease absorbtion of Calcium, necessary for blood clotting

d. All of the above

101. ICMR stands for

SJfrf'- Indian Council for Medical Research

b. Indian Chambers for Marine Research

c. Indian Centre for Meteorological Research

d. Incoming Call and Message Recovery

102. Keshan's disease is due to deficiency of

a. Vitamin A b. Magnesium

d. Essential Fatty Acids

103. Hemolytic anemia is reported due to deficiency of ----------— --- : in diet

spf" Vitamin E b. Iron

c. Vitamin B_{12} d. 'Folia acid

104. Which of the following acts as the cofactor in the glucose transport with insulin

a. Calcium \^6. Chromium c. Cobalt d. Copper

105. Alzheimer's disease can be seen due to deficiency of

a. Selenium b. Sodium ^g^, Silicon d. Sulphur

106. Megaloblastic anemia is due to deficiency of

a. Vitamin E b. Iron c. Vitamin B_{12} \-JGU-* Folic acid

107. Which of the following is the constituent of rhodopsin?

Vitamin A b. Calcium c. Vitamin D d. Iron

108. Cheilosis, angular stomatitis is the deficiency symptoms due to lack of ----— in diet

a. Pyridoxine b. Vitamin B_6

c. Vitamin B_2 ^jd^ Both a and b

109. WhatisDIT?

Ss&r It is energy from diet used to produce energy

b. It is recommended diet list

c. It is the nutritional deficiency information

d. It is method to remove toxic substance from food

110. What is the toxic dose for Vitamin C?

a. 500-1000 mg b. 1000-2000 mg

Vx^-2000 - 4000 mg d. 4000 - 7000 mg

111. Excess of a carotene in diet acts as antivitamin against

a. Vitamin A b. Vitamin C LJ^-~ Vitamin D d. Vitamin E

112. Ethanol, a dietary substance is having energy value of

a. 4.3 kcal/g b. 5.8 kcal/g c. 6.6 kcal/g *-4r^7.1 kcal/g

113. What is the RDA per day for Vitamin C?

a. 40 mg b. 50 mg *%j^*60* mg d. 70 mg

114. Pyridoxine is made unavailable by the presence of an antivitamin compound. Name it

a. Hypoglycin b. Avidin \J^ Linatine d. Polyenic acids

115. Which of the following is essential fatty acid?

a. EPA b. DHA c. ALA ^&*f* All of the above

116. DIT stands for

a. Dietary Information Tax *\j&r**T)\e\.axy* Induced Thermogenesis

c. Daily Induced Toxicity d. Developed Intestinal Toxicity

117. BMI is equal to

\A^weight / (height in meter)^2 b. Weight / (height in inch)^2

c. Weight x height in inch d. Weight x height in meter

118. Wilson's disease is related to

\-af^Calcium metabolism b. Fat metabolism

c. Iron metabolism d. Fructose metabolism

119. What is etiology?

a. It is study of dietary deficiency diseases

\J^ It is study of causative factors u

c. It is study of toxic substances

d. It is study of mode of action of ant nutritional compounds

120. Ragi is very good source of
*—ar" Calcium b. Vitamin C
c. Essential Fatty acids d. Zinc \^.

121. Zinc decreases the bioavailability of
a. Calcium _m^kfT Copper c. Magnesium d. Iron

122. What is "olestra"
a. It is synthetic fat replacer b. Polyester of sucrose
c. Low calorie compound \$i^All of the above

123. Body cannot synthesize
a. Palmitic acid ^sbu^Oleic acid c. Laurie acid d. Stearic acid

124. In general the efficiency of phosphorous absorbtion is
a. 100% b. 80% s^j^'60% d. 40%

125. t Which of the following is the calcium bioavailability enhancer?
a. Lactose b. Vitamin D
c. Prebiotics S/cl. All of the above

126. Which of the following is the temporary calcium ?
a. Adipose tissue b. Calcitonin
d. None of the above

127. Body can synthesize
a. Methionine b. J?henylanaline
c. Valine vdr: Leucine

128. The Egg white is rich in
a. Carbohydrates b. Minerals
N&^-Proteins d. Fat

129. Which vitamin is the example of sugar acids?
b. Vitamin A \J*^ Vitamin CJT* Vitamin D e. Vitamin E

130. Which vitamin is necessary for the normal muscle tone in dogs and other animals ?
a. Vitamin A b. Vitamin C c. Vitamin D *xlXvitamin E

131. _____ is another term for biosynthesis
a. Catabolism v^- Anabolism c. Metabolism d. Catalyst

132. Energy in biological system is primarily

a. Electrical \Jh-~~Chemical c. Radiant d. Mechanical

133. Energy is carried from catabolic to anabolic reactions in the form of _____

a. ADP \j2£^igh-energy ATP bonds

c. Coenzymes d. Inorganic phosphate

134. A reduced compound is

a. NAD b. FAD Vox^-NADH d. ADP

135. Products of glycolysis are

^-tfT ATP b. ADP c. CO_2 d. NADH

136. The number of ATP's given off in the fermentation of a glucose molecule is

a. 4 U-''tyT*2 c. 40 d. 0

137. The net yield of ATP's in complete oxidation of glucose in aerobic respiration is _____

a. 40 b. 6 *XJS*x-3$* d. 2

138. The compound that enters the TCA cycle from glycolysis is

a. Citric acid b. Oxaloacetic acid

c. Pyruvic acid ^ji^-Acetyl coenzyme A

139. At which site the $FADH_2$ formed during the TCA cycle enters the electron transport system

a. NADH dehydrogenase b. Cytochrome

^^tT^ Coenzyme Q d. ATP synthase

140. The ATP synthase complex produces _____ ATP's for each NADH that enters electron transport system

a. 1 b. 2 *~~*r 3 d. 4

141. Pterin residue is found in which of the following vitamin

a. Riboflavin b. Ascorbic acid

c. Retinol \jX~<* folic acid

142. Yellow green fluorescence in the whey shows the presence of which vitamin?

Riboflavin b. Ascorbic acid c. Thiamin d. Biotin

143. 2 methyl - 1,4 - napthaquinone is the integral structure of vitamin

a. A b. B_2 \c.^K d. C

144. ----------is the component of CoA

a. Vitamin K B. Thiamin

\£^HPantathonic acid d. Biotin

145. Polishing of rice removes

a. Vitamin K A-%f Vitamin B_r c. Vitamin C d. Vitamin A

146. Which form of Tocopherol is most active?

UTa b.

(3

c. 5 d. none of the above

147.Thiazolidine is the product of heating of food containing which of the following vitamin

\-ar-^Pyridoxine b. Biotin c. Ascorbic acid d. Folic acid

148. When pantathonic acid degrades under acidic condition, the product formed is?

a. P tochopherol ᵛ^6. P alanine

c. P glucose d. none of the above

149. Ribose molecule is seen in the structure of

a. Vitamin B_6 b. Vitamin B_x \j^ Vitamin B_2 d. Vitamin B_{12}

150. The eating disorder that is characterized by self imposed starvation is

Anorexia b. Flatulence c. Obesity d. Malnutrition

CHEMISTRY OF FOODS

l.c 2. c 3.a 4. d 5. d 6. b 7. b 8. c 9. d ,10. a 11.b 12. b 13. d 14. a 15. b 16. b 17. a 18. a 19. d 20. b 21. d 22. b 23. d 24. d 25. a 26. c 27. b 28. c 29. a 30. b 31. d 32. b 33. c 34. b 35. d 36. b 37. c 38. b 39. c 40. c 41. a 42. b 43. b 44. c 45. d 46. d 47. c 48. a 49. c 50. d 51. d 52. c 53. a 54. a 55. a 56. c 57. c 58. c 59. b 60. c 61. d 62. d 63. c 64. a 65. d 66. d 67. c 68. d 69. c 70. a 71. c 72. b 73. a 74. b 75. a 76. b 77. b 78. a 79. b 8.0. c 81. b 82. a 83. a 84. a 85. c 86. b 87. a 88. b 89. b 90. a 91. a 92. c 93. a 94. d 95. c 96. d 97. a 98. c 99. c 100. b 101.d 102. b 103. c 104b 105. a 106. b 107. b 108. a 109. b 110. b 111. b 112. d 113. c 114b 115. c 116. a 117. b 118. c 119. b 120. a 121. a 122. d 123. b 124b 125. a 126. d 127. c 128. d 129. c 130. B 131. a 132. c 133. b 134b 135. a 136. a 137. c 138. a 139. a 140. b141. b 142. a 143. a 144b 145. b 146; a 147. b 148. a 149. d 150. B 151. a 152. b 15.3. c 154b 155. c 156. d 157. a 158. a 159. d 160. a 161. d 162. b 163. c 164 a 165. b 166. a 167. d 168. d 169. d 170. a 171. a 172. c 173. a 174 b 175.c 176. b 177. a 178. b 179. a 180. b 181. c 182. a 183. a' 184b 185. c 186. a 187. b 188. d 189. c 190. a 191. c 192. d 193. a 194 b 195. d 196. a 197. a 198. c 199. c 200 a 201. d 202. d 203. a 204. d 205. d 206. a 207. a 208. b 209. b 210. 211. b 212. c 213. d 214. c 215. b 216. a 217. d 218. a 219. a 220. a 221. d 222. c 223. a 224. b 225. a 226. c 227. b 228. b 229. a 230. d 231. a 232. a 233. d 234. d 235. a 236. c 237. b 238. b 239. a 240. a 241. b 242. b 243. a 244. b 245. b 246. B

HUMAN NUTRITION AN VITAMINS

1. b 2. a 3. a 4. c 5. b 6. a 7. c 8. a 9. c 10. a 11. d 12. a 13. a 14. c 15. b 16. d 17. c 18. b 19. b 20. a 21. b 22. a 23. a 24. d 25. c 26. d 27. d 28. a 29. c 30. a 31. d 32. a 33. a 34. b 35. d 36. c 37. a 38. a 39. b 40. c 41. c 42. c 43. c 44. a 45. b 46. a 47. d 48. d 49. b 50. b 51. a 52. b 53. c 54. d 55. d 56. c 57. d 58. c 59. d 60. c 61. c 62. d 63. b 64. b 65. a 66. d 67. b 68. b 69. b 70. a 71. a 72. a 73. c 74. d 75. b 76. a 77. b 78. b 79. b 80. c 81. b 82. c 83. b 84. c 85. b 86. b 87.a 88. d 89. b 90. d 91. b 92. d -93. c 94. c 95. b 96. b 97. c 98. d 99. c 100. a 101. a 102. c 103. a 104. b 105. c 106. d 107. a 108. d 109. a 110. c 111. c 112. d 113. c 114. c 115. d 116. b 117. a 118. a 119. b 120. a 121.b 122. d 123. b 124.c 125. d 126. c 127. d 128. c 129. c 130. d 131.b 132. b 133. b 134. c 135. a 136. b 137. c 138. d 139. c 140. c 141.d 142. a 143. c 144. c 145. b 146. a 147. a 148. b 149. c 150. a