



Booklet No. :

**FT - 15**

# Food Technology

Duration of Test : 2 Hours

Max. Marks : 120

Hall Ticket No.

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Name of the Candidate : \_\_\_\_\_

Date of Examination : \_\_\_\_\_ OMR Answer Sheet No. : \_\_\_\_\_

\_\_\_\_\_  
Signature of the Candidate

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Signature of the Invigilator

## INSTRUCTIONS

1. This Question Booklet consists of **120** multiple choice objective type questions to be answered in **120** minutes.
2. Every question in this booklet has 4 choices marked (A), (B), (C) and (D) for its answer.
3. Each question carries **one** mark. There are no negative marks for wrong answers.
4. This Booklet consists of **16** pages. Any discrepancy or any defect is found, the same may be informed to the Invigilator for replacement of Booklet.
5. Answer all the questions on the OMR Answer Sheet using **Blue/Black ball point pen only**.
6. Before answering the questions on the OMR Answer Sheet, please read the instructions printed on the OMR sheet carefully.
7. OMR Answer Sheet should be handed over to the Invigilator before leaving the Examination Hall.
8. Calculators, Pagers, Mobile Phones, etc., are not allowed into the Examination Hall.
9. No part of the Booklet should be detached under any circumstances.
10. The seal of the Booklet should be opened only after signal/bell is given.

**FT-15-A**



## FOOD TECHNOLOGY

1. What percentage of human body is made up of proteins ?  
(A) 50 percent (B) 45 percent (C) 30 percent (D) 20 percent
2. Vitamins are classified as fat-soluble and water soluble and they perform specific functions in human body. Which of the following is not a fat soluble vitamin ?  
(A) vitamin A (B) vitamin D (C) vitamin E (D) vitamin B<sub>6</sub>
3. Which of the following statement is incorrect in relation to function of minerals ?  
(A) Copper is useful in iron absorption and collagen metabolism.  
(B) Magnesium is found useful as enzyme activator.  
(C) Manganese is used in body for cholesterol metabolism.  
(D) Selenium is useful in oxygen transport.
4. Which of the following statement is false in connection with vitamin ?  
(A) Vitamin A is highly sensitive to acid, air and light.  
(B) Vitamin C and D are sensitive to alkalinity, air, light and heat.  
(C) Thiamin acts as co-enzyme in energy metabolism.  
(D) Niacin helps in absorption of dietary calcium and phosphorus.
5. ISO prepared a document called ISO 9000 series in 1987 (modified in 1994) as a guideline for all organizations on managing quality and standard. Its Indian equivalent is called :  
(A) IS 14000 (B) IS 12000 (C) IS 22000 (D) IS 2000
6. The Ministry of Food Processing Industries was established in which of the following the year ?  
(A) 1988 (B) 2000 (C) 1996 (D) 2001
7. A viscosity value of 50cp will be equivalent to how many Pa.s ?  
(A)  $5 \times 10^{-2}$  Pa.s (B)  $150 \times 10^{-2}$  Pa.s  
(C)  $250 \times 10^{-2}$  Pa.s (D)  $350 \times 10^{-2}$  Pa.s
8. Identify which of the following is not a Flow measurement device :  
(A) Venturi tube (B) Pitot tube  
(C) Orifice meter (D) Lactometer
9. There are two important types of time-dependent non-Newtonian liquids, namely shear-thinning liquids and shear-thickening liquids. Shear-thinning liquids are also called  
(A) Thixotropic fluids (B) Dilatant liquid  
(C) Pseudoplastic (D) Newtonian fluids

10. Which of the following mixer is mismatched below ?
- (A) Ribbon mixers - dry powder and particulate foods
  - (B) Paddle agitators - low or medium viscosity liquids
  - (C) Z-blade mixers - high viscosity liquids and paste
  - (D) Sigma blade mixers - low viscosity foods
11. The extraction or separation of food components is fundamental for the preparation of ingredients during processing. The process of removing liquids from solids is referred to as
- (A) Centrifugation (B) Filtration (C) Expression (D) Extraction
12. The benefits of size reduction of foods in food processing are as following, except
- (A) A similar range of particle sizes allows more complete mixing of ingredients
  - (B) Size reduction has little or no preservative effect
  - (C) There is increase in the surface area to volume ratio of the food, which decreases the rate of drying, heating or cooling
  - (D) Improves the efficiency and rate of extraction of liquid components
13. Which of the following factors are considered important for the stability of an emulsion ?
- (A) The viscosity of the dispersed phase
  - (B) The type and quantity of emulsifying agent
  - (C) The interfacial forces acting at the surfaces of the globules
  - (D) The differences between the densities of the dispersed and continuous phases
14. Which of the following are covered under proximate analysis of foods ?
- (A) Proteins, carbohydrates, vitamins
  - (B) Proteins, carbohydrates, fats
  - (C) Proteins, sugars, minerals
  - (D) Fats, vitamins, minerals
15. Which of the following is least related to the other three ?
- (A) Evaporation - Milk
  - (B) Dehydration - Peas
  - (C) Sun drying - Grapes
  - (D) Reverse osmosis - Orange juice
16. One of the following is a major risk factor in heart diseases
- (A) HDL cholesterol (B) VLDL cholesterol
  - (C) LDL cholesterol (D) Triglycerides
17. Aspartame is a low-calorie sweetener resulting from the combination of two amino acids. The amino acids used are
- (A) Alanine and glutamine (B) Aspartic acid and glutamine
  - (C) Aspartic acid and alanine (D) Aspartic acid and phenylalanine

18. Which of the following is least related to other three ?  
 (A) Bligh and Dyer technique (B) Mojonnier method  
 (C) Soxhlet extraction (D) Gerber method
19. If moisture content of a food is 20% on wet weight basis. Calculate its moisture content on dry weight basis ?  
 (A) 22 percent (B) 25 percent (C) 31 percent (D) 45 percent
20. The baking performance of wheat flour improves when they are treated with maturing agents. Among the maturing agents that may not be added in wheat flour for this purpose is  
 (A) Chlorine dioxide gas (B) Acetone peroxide  
 (C) Azodicarbonamide (D) Potassium propionate
21. Rigor mortis results in increase in lactic acid content in meat which is formed from  
 (A) Amylopectin (B) Amylose (C) Glycogen (D) Dextrins
22. Which of the following is incorrectly matched ?  
 (A) *Lactobacillus bulgaricus* – fermented milk  
 (B) *Aspergillus niger* – amylases  
 (C) *Rhizopus nigricans* – gluconic acid  
 (D) *Saccharomyces cerevisiae* – bread
23. Marasmus is mainly caused due to deficiency of proteins or carbohydrates or both. It shows the following symptoms, except  
 (A) The child gives shriveled appearance  
 (B) The face looks thin and eyes are sunken  
 (C) Belly generally comes out  
 (D) The skin shows a number of folding as the fat and muscles are very less
24. Which of the following is referred to as bread wheat ?  
 (A) *Triticum aestivum* (B) *Triticum monococcum*  
 (C) *Triticum durum* (D) *Triticum turgidum*
25. Which of the following compound cannot be synthesised by human body ?  
 (A) Lactic acid (B) Ascorbic acid (C) Pyruvic acid (D) Oleic acid
26. Heat required to change, at constant temperature, the physical state of materials from solid to liquid, liquid to gas or solid to gas is known as  
 (A) Sensible heat (B) Specific heat  
 (C) Calorie (D) Latent heat
27. The dimensionless Reynolds number (Re) characterizes fluid flow. The Reynolds number less than 2100 indicates  
 (A) Streamline flow (B) Transitional flow  
 (C) Turbulent flow (D) Unidirectional flow

28. Which of the following is not an example of positive displacement pump ?  
 (A) Gear pump (B) Rotary pump  
 (C) Centrifugal pump (D) Reciprocating pump
29. In which of the following industrial operation heat is not transferred ?  
 (A) Freezing (B) Emulsification  
 (C) Pasteurization (D) Blanching
30. Why food kept at refrigerated conditions is considered safe ?  
 (A) Low temperature arrests growth of pathogens  
 (B) Low temperature arrests growth of psychrophiles  
 (C) Low temperature kills microbes  
 (D) Low temperature arrests growth of all microbes
31. Gliadin protein of gluten is responsible for which characteristics of dough ?  
 (A) Extensibility (B) Elasticity  
 (C) Dough stability (D) Water holding capacity
32. Which of the following dryer is commonly used for drying of peas ?  
 (A) Drum dryer (B) Fluidized bed dryer  
 (C) Spray dryer (D) Bin dryer
33. According to FPO specifications a tomato paste must contain  
 (A) 15 % TSS (B) 25 % TSS (C) 30 % TSS (D) 40 % TSS
34. Water hardness influences the processed food quality. The hardness of water is measured in parts per million of  
 (A) Calcium carbonate (B) Calcium chloride  
 (C) Calcium sulphate (D) Calcium oxalate
35. Reduction in the size of solid food is referred to as  
 (A) Emulsification (B) Commination  
 (C) Homogenization (D) None of these
36. Which of the following mixer is generally used to mix bread dough ?  
 (A) Trough mixer (B) Ribbon mixer  
 (C) 'Z' blade mixer (D) Cone mixture
37. A process of exposing the raw fruits and vegetables to heat for a few minutes by immersing in boiling water or with steam is known as  
 (A) Blanching (B) Cooking (C) Thawing (D) Heating
38. Which of the following is least related to other three ?  
 (A) Sterilization – beans  
 (B) Baking – biscuits  
 (C) Drying – peas  
 (D) Freezing – red meat

39. Which of the following term is incorrectly defined ?
- (A) Cold shortening – undesirable changes to meat caused by cooling before rigor mortis has occurred
  - (B) Chilling injury – physiological changes to some types of fruits and vegetables caused by low temperature which results in loss of eating quality
  - (C) Rigor mortis – a condition in which muscle tissues become extensible
  - (D) Dew point – temperature at which an air-water vapour mixture becomes saturated with moisture, making onset of condensation
40. Starch is made up of two distinct polymers, amylose and amylopectin. Waxy wheat starch has been shown to lack measurable amount of
- (A) Amylopectin
  - (B) Amylose
  - (C) Both amylose and amylopectin
  - (D) Neither amylose nor amylopectin
41. Some of the physical characteristics of food are described below. Find the one, which is incorrectly defined.
- (A) Elasticity – the rate at which a deformed food sample goes back to its original condition after the deforming force is withdrawn.
  - (B) Gumminess – the quantity to stimulate the energy required to disintegrate a semi-solid food sample to a steady state of swallowing
  - (C) Chewiness – the quantity to stimulate the energy required to masticate a semi-solid food sample to a steady state of swallowing
  - (D) Friability – the hardness of a food and its tendency to resist crack.
42. In a food processing industry, several unit operations are carried out. Identify the one, which is incorrectly defined ?
- (A) Grading – the assessment of a number of attributes to obtain an indication of overall quality of a food
  - (B) Filtration – the separation of liquid from solids by applied pressure
  - (C) Sorting – the separation of foods into categories on the basis of a measurable physical properties
  - (D) Ohmic heating – direct electrical heating of foods
43. Naturally occurring pigments in food are generally water-soluble. Identify the one, which is oil soluble pigment.
- (A) Anthocyanins (B) Betalaines (C) Carotenes (D) Curcumin
44. Hard wheat tends to contain relatively low levels of starch and high levels of proteins, while reverse is true for soft wheat. Which of the following statement is incorrect ?
- (A) Durum wheat flours are best suited for pasta products.
  - (B) Wheat holds a unique place amongst cereals because upon mixing wheat flour with water, an elastic matrix called gluten is formed.
  - (C) High protein flours are best suited for biscuits.
  - (D) Low protein flours are best suited for cakes and pastries.

45. Different types of maize are classified on the basis of their protein content and the hardness of the kernel. Much of the niacin in corn is in a bound form and this led to a disorder in population where corn is the staple food. This niacin deficiency is known as  
 (A) Pellagra (B) NTD (C) Rickets (D) Jaundice
46. Oats have a relatively minor status among cereals because they are more difficult to process and are unstable due to their high lipid content and lipase activity. Reports of the possible blood cholesterol lowering effect of oat bran have increased the popularity of its use for human food in developed countries. Which of the following constituents is held responsible for cholesterol lowering effect of oat ?  
 (A) Beta amylase (B) Beta glucan  
 (C) Lipase activity (D) High Pentosans
47. There is a considerable variation in the protein contents among the cereals. Which of the following cereals contain highest percentage of protein content ?  
 (A) Brown rice (B) Sorghum (C) Maize (D) Pearl Millet
48. Cereals contain appreciable amounts of toxic or antinutritional substances. Which of the following antinutritional substance is not found in appreciable quantity in cereals ?  
 (A) Tannins (B) Phytates (C) Polyphenols (D) Saponins
49. Foods can be classified according to their pH values into low acid, medium acid, acid and highly acid foods. Which of the following class of food does not have correct pH value ?  
 (A) Low acid pH 5.0 and higher – peas, beans, asparagus  
 (B) Medium acid pH 5.0 – 4.5 – meat, spaghetti, soups  
 (C) Acid pH 4.5–3.7 – sauerkraut, rhubarb, berries  
 (D) Highly acid pH 3.7 and below – pickles, citrus juices
50. A mixture of water and sodium chloride can be separated by  
 (A) Evaporation (B) Simple distillation  
 (C) Fractional distillation (D) Decantation
51. The watery part of milk separated from curd during cheese making is extensively used in the manufacturing of  
 (A) Lactic acid (B) Amines (C) Protein (D) Starch
52. The element which is required in the largest amounts by the human body is  
 (A) Calcium (B) Zinc (C) Iodine (D) Iron
53. Typical temperatures for a range of food processing operations are indicated below. Indicate which one of the following is a mismatch.  
 (A) Spray drying, Baking – 200-250 °C  
 (B) Extrusion cooking, UHT – 140-150 °C  
 (C) Canning – 110-125 °C  
 (D) Pasteurization, hot-air drying – 50-100 °C

54. Enthalpy is the heat content or energy level in a system per unit mass, and its unit is :  
 (A) Joules/kg (B) Joules/kg °C  
 (C) W/m °C (D) None of the above
55. A technique for separating proteins and nucleic acids on the basis of charge and molecular size is known as  
 (A) Chromatography (B) SE-HPLC  
 (C) RP-HPLC (D) Electrophoresis
56. An analytical procedure where the weight of a food constituent is measured after suitable treatments is called  
 (A) Gravimetric analysis (B) Titrimetric analysis  
 (C) Physical analysis (D) Volumetric procedure
57. Protein can be assessed in foods by several methods. Which one of the following method is not used for protein estimation ?  
 (A) Kjeldahl method (B) Formol titration  
 (C) Thermal combustion method (D) Soxhlet method
58. Which of the following organism play important role in the production of pickles ?  
 (A) Distiller yeast (B) *S. cerevisiae*  
 (C) *Lactobacillus plantarum* (D) *Azotobacter*
59. India ranks first in the world for annual production of  
 (A) Milk (B) Cereal grains  
 (C) Rabbit Meat (D) Vegetables & fruits
60. Khoa is prepared by continuous boiling of milk until desired concentration is achieved. The total solids in khoa is  
 (A) 95 - 92 percent (B) 85 - 82 percent  
 (C) 75 - 78 percent (D) 65 - 72 percent
61. Which one of the following compounds provides food to yeast ?  
 (A) Ammonium chloride (B) Diastase  
 (C) Zymase (D) Ammonium sulphate
62. In case of jelly the phenomenon of spontaneous exudation of fluid from a gel is called  
 (A) Cloudy jelly (B) Foggy jelly  
 (C) Weeping jelly (D) Synegy jelly



63. Tomatoes are processed into a variety of products such as tomato juice, puree, paste and ketchup. These products should have minimum prescribed total/tomato solid. Which of the following product has incorrect percentage of solids.
- (A) Tomato paste should have not less than 25 percent of tomato solids  
 (B) Tomato ketchup contains not less than 12 percent tomato solids  
 (C) Tomato puree contains not less than 20 percent tomato solids  
 (D) Tomato juice should have a total solids content of 5.66 percent
64. Vinegar is a fermented product, which contains varying amounts of fruit acids, colouring matter, salts and a few other fermentation products those impart a characteristics flour and aroma to the product. It should contain at least
- (A) 6 percent acetic acid                      (B) 8 percent acetic acid  
 (C) 10 percent acetic acid                      (D) 4 percent acetic acid
65. Which of the following is incorrectly matched ?
- (A) Thermal capacity      –    calorie/°C  
 (B) Latent heat              –    calorie/gm  
 (C) Heat                      –    Joule  
 (D) Specific heat            –    calorie/gm/°C
66. For a gram of water to change into gas, 540 calories is required. This energy requirement is called
- (A) Heat of solidification                      (B) Heat of vaporization  
 (C) Heat of fusion                                (D) Heat of evaporation
67. Which of the following is incorrectly matched ?
- (A) Ascorbic acid              –    antioxidant  
 (B) Benzoic acid                –    preservative  
 (C) Monosodium glutamate –    anticaking agent  
 (D) BHQ                         –    antioxidant
68. Which of the following term is incorrectly defined ?
- (A) TSS is the amount of sugars and water soluble substances present in fruit and vegetables  
 (B) De-tartarisation is the elimination of sodium bi-tartrate from fruit beverages  
 (C) Pasteurization is the process of heat treatment used to reduce the total microflora, especially pathogenic bacteria  
 (D) Decanter is the process of removal of suspended material from fruit juice

69. Jam is a product with reasonably thick consistency, firm enough to hold the fruit tissues in position and is made by boiling fruit pulp with sufficient sugar. It contains 0.5-0.6 % acid and invert sugar in it should not be more than  
 (A) 40 percent (B) 35 percent (C) 25 percent (D) 10 percent
70. The finishing or end point of jam can be determined by the following methods, except  
 (A) Drop test (B) Jel test (C) Sheet test (D) Refractometer test
71. Which of the following fruit product has incorrect TSS in accordance with FPO specifications ?  
 (A) Fruit jam 68 % TSS (minimum)  
 (B) Fruit jelly 65 % TSS (minimum)  
 (C) Marmalade 68 % TSS (minimum)  
 (D) Fruit preserve 68 % TSS (minimum)
72. In milk processing the lower-temperature longer-time process operating at 63 °C for 30 min causes greater changes to flavour and slightly greater loss of vitamins than HTST method where milk is processed at  
 (A) 72 °C for 15 s (B) 90 °C for 0.1 s  
 (C) 90 °C for 0.01 s (D) 90°C for 1 s
73. The process of drying in which ice is directly converted into vapours is known as  
 (A) Cabinet drying (B) Sun drying  
 (C) Sublimation (D) Tunnel drying
74. Which of the following statements correctly describes HACCP ?  
 (A) Hazard analysis and quality control point.  
 (B) Hazard analysis and critical control point.  
 (C) Hazard assessment and quality control point.  
 (D) Hazard assessment and critical control point.
75. In wheat dough, the starch is converted into sugar by the action of  
 (A) Amylase (B) Protease (C) Lipase (D) Zymase
76. Which of the following is incorrectly matched for measuring the tenderness of food items ?  
 (A) Pastry – Shortometer  
 (B) Bread – Compressimeter  
 (C) Apple – Texture analyzer  
 (D) Grape Jelly – Masticometer

77. Night blindness is the problem faced by millions of people all over the world. It is caused by Vitamin A deficiency. Which of the following is true for Vitamin A ?
- (A) Vitamin A is synthesized by using beta-carotene, a chemical present in many yellow fruits and vegetables.
  - (B) It is needed for our cardiovascular well-being
  - (C) It maintains healthy immune system
  - (D) All of the above
78. Which of the following is not an essential amino acid ?
- (A) Cystine
  - (B) Isoleucine
  - (C) Lysine
  - (D) Valine
79. The liquid separated in the process of milk coagulation by application of either rennet or acid to precipitate casein is called
- (A) Wash liquid
  - (B) Affluent liquid
  - (C) Whey
  - (D) Creamy fluid
80. Moisture content is often specified in compositional standards. Which of the following product is incorrectly matched for moisture or solid contents ?
- (A) Biscuits - 40 percent moisture
  - (B) Raisins - 18 percent moisture
  - (C) Bread - 20 percent moisture
  - (D) Honey - 17 percent moisture
81. Invert sugar syrup is basically an equimolecular combination of Glucose and Fructose, which is sweeter than sucrose by
- (A) about 1.3 times
  - (B) about 2.5 times
  - (C) about 2.0 times
  - (D) about 1.7 times
82. About two percent of world population shows allergy called celiac disease to wheat grain protein. Which of the following is that protein ?
- (A) Globulin
  - (B) Gliadin
  - (C) Gluten
  - (D) Albumin
83. Which of the following statement with respect to vitamin stability in foods is incorrect ?
- (A) Vitamin A is normally not affected by heat processing but it is destroyed by UV rays and air.
  - (B) Vitamin C is unstable to heat but destroyed by acids
  - (C) Vitamin D is increased in ultraviolet radiation
  - (D) B complex Vitamins are more heat stable

84. Enzymes and other additives are used as processing aids. Rennet is used in one of following the food products :
- (A) Wine making (B) Cheese manufacture  
(C) Yogurt making (D) Butter manufacture
85. The milling process results in some loss of food value. The refinement of cereal grains result in the loss of vitamin
- (A) K (B) E (C) B (D) C
86. The food constituents undergo changes on processing. Milk fat in butter should be
- (A) not less than 80% (B) 65%  
(C) 75% (D) not less than 90%
87. The food constituents provide us energy to work. The principal sources of food energy are
- (A) fats and protein (B) proteins and carbohydrates  
(C) carbohydrates and fats (D) vitamins and carbohydrates
88. Many diet related disorders occur in human beings. Kwashiorkor is a disease related to
- (A) Fatty acid deficiency (B) Vitamin deficiency  
(C) Food energy deficiency (D) Protein deficiency
89. Food poisoning occurs due to inadequate processing or poor handling of processed food articles. The most dangerous food poisoning organism is
- (A) *Salmonella spp.* (B) *Clostridium perfringens*  
(C) *Staphylococcus aureus* (D) *Clostridium botulinum*
90. Raw agricultural commodities are processed for certain advantages. Food preservation has the principal aim of suppressing
- (A) Enzymatic changes (B) Nutritional changes  
(C) Microbial changes (D) All the above
91. Parboiling is used in the Asian countries for grain processing. Parboiling technique is generally applied to
- (A) Rice (B) Wheat (C) Maize (D) Millets
92. Which of the following is correctly matched ?
- (A) ISO 9001 - deals with product development & manufacturing  
(B) ISO 9002 - companies doing only manufacturing  
(C) ISO 9004 - deals with quality management and system  
(D) All the above

93. The designer foods refers to  
 (A) Food with increased levels of health promoting substances  
 (B) Foods those are contained in well-designed packaging materials for consumer acceptance  
 (C) Foods those are raised by organic farming  
 (D) None of the above
94. Which of the following is not true in relation to fats ?  
 (A) Animal fats tend to have less unsaturation and are therefore harder fats  
 (B) Coconut and palm kernel oil have short to medium chain saturated fatty acids causing these to be solid at room temperature  
 (C) Fats are a concern because they have a high caloric density of 7 cal/g  
 (D) Fats are a medium of heat transfer and are used to thermally process number of food products.
95. A wet food product contains 70% water. After drying, it is found that 80% of original water has been removed. How much mass of water is removed per kilogram of wet food ?  
 (A) 0.56 kg      (B) 0.60 kg      (C) 0.66 kg      (D) 0.76 kg
96. The moisture content of a food product is 50% (wet basis). What would be the moisture content on dry basis ?  
 (A) 100%      (B) 50%      (C) 60%      (D) 45%
97. Test weight of rice grain is an important parameter of milling quality of rice. Which one of the following is the correct range for full kernel weight of rice ?  
 (A) 15-29 mg      (B) 30-39 mg      (C) 40-49 mg      (D) 59-69 mg
98. Fruit nectars are produced from fruit slurries or whole fruits by homogenization in the presence of sugar, water and citric acid/ascorbic acid. The fruit contents in nectars should be  
 (A) 25-50%      (B) 15-25%  
 (C) More than 50%      (D) 65%
99. True density of grains is calculated by fluid displacement method using  
 (A) Rheometer      (B) Viscometer      (C) Pycnometer      (D) Declinometer
100. As per PFA definition, the ice-cream should contain  
 (A) Not less than 40 percent TS  
 (B) Not less than 36 percent TS  
 (C) Not less than 46 percent TS  
 (D) Not less than 56 percent TS
101. Food Safety and Standards Authority of India has been established to regulate food processing industries. It has  
 (A) Eleven members including chairman  
 (B) Nine members including chairman  
 (C) Seven members including chairman  
 (D) Five members including chairman

- 102.** Colour of a food product can be measured by following techniques/instrument :
- (A) Hunter lab colour meter                      (B) Spectrophotometer  
(C) Tintometer                                      (D) All the above
- 103.** Malting process allows malt amylase and proteinases to degrade starch and protein to
- (A) glucose and peptone as well as peptides  
(B) glucose and amino acids  
(C) maltose and peptone as well as peptides  
(D) maltose and amino acids
- 104.** Which one of the following is a water-soluble pigment ?
- (A) Anthocyanin (B) Chlorophylls (C) Phycocyanin (D) Carotene
- 105.** There are several ways of arriving at the standards for product quality but four methods are commonly used which are given below, except
- (A) Company or voluntary standards    (B) Legal standards  
(C) Guided standards                      (D) Industry standards
- 106.** How many high molecular weights subunits are contained in a single wheat cultivar ?
- (A) 1-2 HMW-GS                                      (B) 3-5 HMW-GS  
(C) 2-6 HMW-GS                                      (D) 4-5 HMW-GS
- 107.** Wheat gluten proteins are classified into gluten forming and non-gluten forming proteins. The average percentage of gluten forming proteins in bread wheat cultivars is
- (A) 40 percent    (B) 50 percent    (C) 60 percent    (D) 80 percent
- 108.** Water activity of some food is given below. Which one is mismatched ?
- (A) Condensed milk    -    0.80  $a_w$   
(B) Jam                      -    0.75  $a_w$   
(C) Biscuits                -    0.30  $a_w$   
(D) Bread                    -    0.70  $a_w$
- 109.** Sulfur dioxide is a food preservative that has following characteristics, except
- (A) Effective at various pH conditions  
(B) Its mechanism of activity is unknown  
(C) Used in dried fruits, wine, lemon juice, fruit juices  
(D) Active against bacteria but not active against fungi
- 110.** Falling number value is linked to amylase activity in wheat flour. Which of the following falling number value is recommended in flour for bread making ?
- (A) 500 sec            (B) 400 sec            (C) 600 sec            (D) 250 sec

111. The viscoelasticity of wheat gluten is linked to which of the following HMW-GS ?  
 (A) 2+12            (B) 20            (C) 7+8            (D) 5+10
112. Name fungi used for cheese making  
 (A) *Penicillium camemberti*            (B) *Penicillium gausalum*  
 (C) *Penicillium notatum*            (D) *Penicillium chrysogenum*
113. Food preservation has the principal aim of suppressing  
 (A) Microbial changes            (B) Enzymatic changes  
 (C) Nutritional changes            (D) All the above
114. Much of the niacin in corn is in a bound form and this led to a disorder in population where corn is the staple food. This niacin deficiency is known  
 (A) Jaundice            (B) NTD            (C) Rickets            (D) Pellagra
115. Folic acid is a/an  
 (A) B vitamin            (B) Amino acid            (C) Fatty acid            (D) Mineral
116. Which one is incorrectly matched ?  
 (A) Vitamin C - Scurvy  
 (B) Thiamin - Beriberi  
 (C) Protein - Kwashiorkor  
 (D) Vitamin D - Marasmus
117. Which of the following is matched incorrectly ?  
 (A) Retort Pouch - flexible packaging material  
 (B) Hedonic scale - food testing  
 (C) RDA - recommended dietary allowances  
 (D) Flavor - a blend of taste and smell
118. Some vitamins also act as antioxidants. Identify such vitamins from the choices given below:  
 (A) Vitamin C and E            (B) Vitamin A and B<sub>2</sub>  
 (C) Vitamin D and K            (D) Vitamin B-complex
119. Vitamin A is present in  
 (A) Green vegetables            (B) Milk  
 (C) Liver            (D) All the above
120. The common term used for water-soluble protein  
 (A) Zein            (B) Albumin  
 (C) Conjugated proteins            (D) Gluten

**SPACE FOR ROUGH WORK**