

ENTRANCE EXAMINATION FOR ADMISSION, MAY 2013.
P.G.DIPLOMA IN FOOD SAFETY AND QUALITY ASSURANCE IN FOOD
INDUSTRY
COURSE CODE : 482

Register Number :

Signature of the Invigilator
(with date)

COURSE CODE : 482

Time : 2 Hours

Max : 400 Marks

Instructions to Candidates :

1. Write your Register Number within the box provided on the top of this page and fill in the page 1 of the answer sheet using pen.
2. Do not write your name anywhere in this booklet or answer sheet. Violation of this entails disqualification.
3. Read each question carefully and shade the relevant answer (A) or (B) or (C) or (D) in the relevant box of the ANSWER SHEET using HB pencil.
4. Avoid blind guessing. A wrong answer will fetch you -1 mark and the correct answer will fetch 4 marks.
5. Do not write anything in the question paper. Use the white sheets attached at the end for rough works.
6. Do not open the question paper until the start signal is given.
7. Do not attempt to answer after stop signal is given. Any such attempt will disqualify your candidature.
8. On stop signal, keep the question paper and the answer sheet on your table and wait for the invigilator to collect them.
9. Use of Calculators, Tables, etc. are prohibited.

1. pH of saliva is

(A) 3.5	(B) 5.6
(C) 7.1	(D) 9.4

2. Which of the following is a natural uncoupler?

(A) Acetyl coenzyme	(B) Thermogenin
(C) Calmodulin	(D) Rotinone

3. Ergotism is due to

(A) Polypeptides	(B) Alkaloids
(C) Phenolic compounds	(D) None of the above

4. Aflatoxin B₁ is

(A) Hepatotoxin	(B) Neurotoxin
(C) Carditoxin	(D) All of the above

5. Kojic acid is

(A) An acid produced during carbohydrate metabolism	
(B) A mycotoxin	
(C) An acidulant used in food processing	
(D) None of the above	

6. Double vision may be evident due to

(A) Aflatoxin	(B) Botulism
(C) Ochratoxin	(D) Raffinose

7. Adulteration of vanaspathi in ghee can be identified by

(A) Halman's test	(B) Boudins test
(C) Holde's test	(D) Carl's test

8. Milk is deficient in

(A) Methionine	(B) Phenylalanine
(C) Valine	(D) Leucine

9. Cereals are deficient in
 (A) Methionine (B) Phenylalanine
 (C) Valine (D) Lysine
10. Toad's Skin is caused by deficiency of
 (A) Vitamin (B) Mineral
 (C) Protein (D) Essential fatty acids
11. Total plate count method is being expressed
 (A) Number of cells /ml (B) Optical density
 (C) c.f.u./ml (D) None of the above
12. Aridine orange gives _____ color to the dead cells.
 (A) Orange (B) Green
 (C) Blue (D) Pink
13. Most heat resistant spore is
 (A) *Staphylococcus aureus* (B) *Clostridium sorogenus*
 (C) *Clostridium botulinum* (D) *Bacillus stearothermophilus*
14. The enzyme involved in nitrate reduction test is
 (A) Flavin enzyme (B) Uracil enzyme
 (C) Thiamine enzyme (D) None of the above
15. Standard opacity tube method , to measure the microbial load, uses the principle
 (A) Turbidometry (B) Impedence
 (C) Cell activity (D) All of the above
16. During measurement of microbial load by ATP method, the oxidation of which compound is taken into consideration?
 (A) ATP (B) Acridine
 (C) Luciferin (D) Chitin
17. Coconut extract agar detects
 (A) Aflatoxin (B) Penicillin
 (C) Ochratoxin (D) Calcitonin

18. Mordant used in staining of flagella
- (A) Ethyl chloride (B) Cetyl pyrimidine chloride
(C) Tannic acid (D) Potassium picolinate
19. Method most suitable for sterilizing blood serum is
- (A) Arnold method (B) Autoclave
(C) Chemical method (D) Filtration
20. The composition of capsule of bacteria is
- (A) Fatty acids (B) Chitin
(C) Cellulose (D) Pectin
21. The % Daily Value is based on a _____ calorie diet.
- (A) 2000 (B) 2500
(C) 3000 (D) 3500
22. Which of the following may NOT be used as a claim on a food label?
- (A) Calorie free (B) Low calorie
(C) Sugar free (D) Low sugar
23. Which of the following foods is NOT exempted from food labeling?
- (A) Whole coffee beans
(B) Dehydrated vegetables-condiment type
(C) Plain instant tea (unsweetened)
(D) Un popped popcorn
24. The basal metabolism rate of a human being is NOT affected by ____
- (A) Diet (B) Size
(C) Sex (D) Age
25. Water functions in the body to
- (A) Serve as a medium for chemical reactions
(B) Dissolve oxygen
(C) Induce glycogen
(D) Moderate metabolism
26. A calorie is the amount of energy required to raise _____ of water one degree _____
- (A) 1 ounce, Fahrenheit (B) 1 gram, Centigrade
(C) 1 kilo, Fahrenheit (D) None

27. In food, carbohydrates supply _____ Kcal. per gram.
- (A) 4 (B) 5
(C) 6 (D) 7
28. Which of the following food processing operations is NOT for cooling food products?
- (A) Air blast (B) Ice water bath
(C) Extrusion (D) Vacuum oven
29. In food, proteins supply-----Kcal. per gram.
- (A) 4 (B) 5
(C) 6 (D) 7
30. Which one of the following is a type of food preserved, in part, by bacteria?
- (A) Yogurt (B) Bread
(C) Wine (D) Whole milk
31. Z value is indicated in
- (A) Minute (B) Log number
(C) Number (D) Degree centigrade
32. Who laid the foundation for a scientific approach to the classification of microorganisms?
- (A) Aristotle (B) Lehmann and Niemann
(C) Leeuwenhoek (D) Lederberg and Tautam
33. Which of the following is storage granule in bacteria?
- (A) Polymetaphosphate (B) Polyglucan granules
(C) Poly α -hydroxy butyrate granules (D) All of the above
34. Highest unit of radiation is
- (A) Rad (B) Kilogray
(C) Gray (D) Megarad
35. The temperature /pressure combination for an autoclave is
- (A) 100° C and 4 PSI (B) 121° C and 15 PSI
(C) 131° C and 9 PSI (D) 115° C and 3 PSI

36. Ropiness in bread is caused by
 (A) *Bacillus licheniformis* (B) *Geotrichum auranticum*
 (C) *Serratia marcescens* (D) None of the above
37. The bacteria present during maturation of nectar to honey is
 (A) *Glucanobacter* spp (B) *Clostridium* sp
 (C) *Lactobacillus* (D) Both (A) and (B)
38. Downy mildew is due to
 (A) *Diplodia* (B) *Cladosporium*
 (C) *Fusarium* (D) *Phytophthora*
39. Softness of pickle is due to the action of
 (A) *Penicillium* spp (B) *Lactobacillus* spp
 (C) *Bacillus* spp (D) *Pseudomonas* spp
40. Blue color on the surface of meat is caused by
 (A) *Serratia marcescens* (B) *Thamnidium* sp
 (C) *Pseudomonas syncyanea* (D) *Penicillium expansum*
41. Aflatoxin M is found in
 (A) Groundnut (B) Milk
 (C) wheat (D) Soybean
42. Roquefortine is
 (A) Bacterial toxin (B) Antinutritional factor
 (C) Mycotoxin (D) A fermented product
43. Adulteration of edible oil by mineral oil can be identified by
 (A) Halman's test (B) Holde's test
 (C) Boudin's test (D) Carl's test
44. Tin can was patented by
 (A) Nicholas Appert (B) Louis Pasteur
 (C) Peter Durand (D) Alexander Fleming
45. Propionates are effective against
 (A) Mold (B) Bacteria
 (C) Yeast (D) All of the above
46. Which of the following vitamin is /are affected by irradiation
 (A) Vitamin B (B) Vitamin C
 (C) Both (A) and (B) (D) None of the above

47. What is the strength of brine solution for canning of vegetables?
(A) 2% (B) 8%
(C) 15% (D) 67%
48. Major source of antifreeze protein is
(A) Tuber (B) Fish
(C) Spinach (D) Papaya
49. In CA storage, the ethylene scrubber uses which of the following oxidizing compound
(A) Nitric acid (B) Hydrogen peroxide
(C) Potassium permanganate (D) All of the above
50. Which of the following is a sachharifying enzyme?
(A) A-Amylase (B) β - Amylase
(C) Both (D) None of the above
51. FSSAI implemented through
(A) Ministry of food processing, Govt. of India
(B) Ministry of parliamentary affairs, Govt. of India
(C) Ministry of health and family welfare, Govt. of India
(D) Ministry of agriculture, Govt. of India
52. ISO standards are
(A) Mandatory orders (B) Non mandatory regulations
(C) Mandatory regulations (D) Non mandatory orders
53. Which rules of PFA deals with the obligatory conditions of packaging?
(A) 12 (B) 49
(C) 36 (D) 69
54. Consumer protection act was passed in the year of
(A) 1946 (B) 1996
(C) 1986 (D) None of the above
55. What is OHSAS?
(A) Operational hazards safety application system
(B) Occupational hazards safety application system
(C) Occupational health safety assessment series
(D) Operational health safety assessment series

56. An antioxidant is added to food products to _____
- (A) slow protein oxidation which causes rancidity
 - (B) slow lipid oxidation which causes caramelization
 - (C) inhibit the Maillard reaction
 - (D) slow lipid oxidation which causes rancidity
57. Which of the following statement is correct?
- (A) HACCP is certification for food industries
 - (B) ISO standards are valid for only industries
 - (C) OHSAS is a mandatory government regulation
 - (D) None of the above
58. Agricultural Produce Grading and marketing act(AGMARK) was formulated in which of the following year
- (A) 1897
 - (B) 1987
 - (C) 1937
 - (D) 2004
59. Food poisoning bacteria will multiply most rapidly at
- (A) 5° C
 - (B) 10° C
 - (C) 37° C
 - (D) 63° C
60. The central dogma of molecular genetics states that genetic information flows from
- (A) DNA to RNA to Protein
 - (B) RNA to DNA to Protein
 - (C) Protein to RNA to DNA
 - (D) protein to DNA to RNA
61. To increase shelf life, the air in a controlled atmosphere storage room containing apples should contain only _____% oxygen rather than the 21% found in normal air.
- (A) 3
 - (B) 5
 - (C) 7
 - (D) 9
62. In US, the _____ regulates genetically engineered microbes used in natural pesticides.
- (A) Environmental Protection Agency
 - (B) United States Department of Agriculture
 - (C) United States Department of Genetic Engineering
 - (D) Food and Drug Administration

63. The _____ dose is the largest dose that the animal in an experiment can take without endangering its health.
- (A) Acceptable daily intake (B) Maximum tolerated dose
(C) No-observed effect level (D) LD50
64. Application efficiency of pesticides can be improved by
- (A) Scouting fields (B) Certified seed application
(C) Cultivating fields (D) Using resistant fertilizer
65. A left-over hot dish needs to be reheated prior to serving again. The internal temperature of the food should reach at least _____ degrees °C.
- (A) 60 (B) 80
(C) 50 (D) 100
66. In which of the following foods is solanine considered a toxin?
- (A) Potato (B) Tomato
(C) Coffee (D) Tea
67. An emulsifier _____
- (A) Prevents the separation of oil and water in food
(B) Controls insects and pests
(C) Maintains the crispness of fruits and vegetables
(D) Produces or stimulates CO₂ production
68. A food additive that retards rancidity of unsaturated oils and prevents browning in fruits and vegetables that occur during exposure to oxygen is called an
- (A) Anti-caking free-flowing agent (B) Antimicrobial agent
(C) Antioxidant (D) Anti-buffer agent
69. Starch is a _____
- (A) Protein (B) Carbohydrate
(C) Fat (D) Mineral
70. If the legal maximum of nitrite (NO₂) is 156 ppm, how much sodium nitrite can you legally add to 1 kg. of meat?
- (A) 156mg (B) 31.2oz
(C) 78mg (D) 15.6 ounces
71. The food pyramid indicates that the group is the where you should obtain the most servings each day.
- (A) Milk (B) Fruit
(C) Vegetable (D) Bread

72. An addition to of a nutrient to foods such as adding vitamin 0 to milk is called _____
- (A) Irradiation (B) Fermentation
(C) Nutrification (D) Fortification
73. Only Lactic acid bacteria can ferment sugars and nutrients in pickles because they
- (A) Use a natural occurring enzyme (B) Are tolerant of salt levels
(C) Produce lactic acid (D) Use acetic acid
74. Which is of the following food components is primarily derived from fruits, vegetables, and grains?
- (A) Fat (B) Protein
(C) Minerals (D) Carbohydrates
75. _____ grams of a day's food intake should be protein
- (A) 30 (B) 35
(C) 40 (D) 45
76. A list of ingredients must be included on a food label. The first ingredient listed is by its amount of
- (A) Percent protein (B) Grams of carbohydrates
(C) Total weight (D) Fat content
77. Anemia is a disease resulting from a low red blood cell count. The red blood cells are the cells that carry _____ throughout the body -or absorption.
- (A) Fiber (B) Vitamin B12
(C) Iron (D) Carbon dioxide
78. Fiber is not digestible, it passes through the intestine system and is removed in the stools. It absorbs water on its way through the digestive systems and results in a softer stool, reducing the risk of:
- (A) Osteoporosis (B) Hemorrhoids
(C) Pernicious anemia (D) Heart disease
79. Soy sauce is made with the use of _____
- (A) Mold (B) Bacteria (C) Fungi (D) Yeast
80. Fats and oils are part of a family of compounds called _____
- (A) Proteins (B) Carbohydrates (C) Lipids (D) Fiber
81. Palatinose is isomer of sucrose and differ from it having
- (A) β -1,2-glycosidic bond (B) α -1,4-glycosidic bond
(C) α -1,6-glycosidic bond (D) β -1,6-glycosidic bond

82. Hemicelluloses are
 (A) As Isomers of cellulose (B) Derivatives of cellulose
 (C) Polymer of cellulose (D) Polymer of Talose
83. When valine is heated with glucose at 180° C the flavor produced is/are
 (A) Chocolate (B) Bread like
 (C) Caramel (D) All of the above
84. Modification of starch may affect
 (A) Gelatinization and heating time
 (B) Freezing stability and cold water stability
 (C) Viscosity
 (D) All of the above
85. Number of carbon atom in stearic acid is
 (A) 12 (B) 16 (C) 18 (D) 30
86. Which lipid is saponifiable
 (A) Simple (B) Complex (C) Both (A) and (B) (D) None
87. Veal is obtained from
 (A) Sheep (B) Buffalo (C) Goat (D) Calf
88. Frankfurters sausages are
 (A) Cured, cooked and smoked (B) Cured, uncooked and smoked
 (C) Fresh, cooked and smoked (D) Cured, cooked and un smoked
89. Fats of fish are prone to oxidation because of
 (A) More saturation (B) Less saturation
 (C) Higher amount of lipoxidase enzyme (D) None of the above
90. Glazing of fish is done to protect fish from
 (A) Microbial spoilage (B) Freezer burn
 (C) Oxidation and freezer burn (D) Chemical spoilage
91. Duboi's method is for estimation of
 (A) Calcium (B) Sugar (C) Protein (D) Vitamin-D
92. Wong's test is used for estimation of
 (A) Reducing sugar (B) Iron (C) Biotin (D) Aflatoxin
93. Cellulose, the structural polysaccharides of the plant, is a polymer of
 (A) β - D Glucose (B) α -D Glucose
 (C) β - D Galactose (D) α -D Galacturonic acid

94. The important role of carotenoids in the human diet is their ability to serve as precursors of
 (A) Vitamin A (B) Vitamin B (C) Vitamin C (D) Vitamin D
95. A mild heat treatment of foods that destroys pathogens and extends its shelf life is called
 (A) Baking (B) Blanching (C) Sterilization (D) Pasteurization
96. The most common and least expensive plastic film used for packaging of solid food material is
 (A) Polyethylene (B) Polystyrene
 (C) Polyproelene (D) Polyvinyl chloride
97. Re-association of amylase and formation of crystalline structure upon cooling of cooked starch solution is termed as
 (A) Syneresis (B) Gelatinization
 (C) Retrogradation (D) Denaturation
98. Thermal destruction of microorganisms follows kinetics of
 (A) Zero order (B) First order
 (C) Second order (D) Fractional order
99. Make the correct match of the food constituents in GROUP-1 with their nature given in GROUP-2
- | | |
|-------------------|-----------------|
| p. Ascorbic acid | 1. Sugar |
| Q. Phenyl alanine | 2. Chelate |
| R. Dextrose | 3. Amino acid |
| S. Haemoglobin | 4. Antioxidants |
- (A) P-4, Q-3, R-1, S-2 (B) P-4, Q-1, R-3, S-2
 (C) P-3, Q-4, R-2, S-1 (D) P-4, Q-2, R-1, S-3
100. A microbial destruction of 99.99% is equivalent of _____ log cycle reduction
 (A) 4 (B) 5
 (C) 6 (D) 1