Total No. of Printed Pages : 21

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

A

SET-Y

PHD-EE-2023-24
Food Technology

10017

Sr. No. .....

Time : **1¼ Hours** Max. Marks : **100** Total Questions : **100**

Roll No. (in figures)_____ (in words) _____

Name _____ Date of Birth_____

Father's Name _____ Mother's Name _____

Date of Examination _____

_____ _____

(Signature of the Candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. ***All questions are compulsory.***
2. The candidates ***must return*** the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
5. The candidate ***must not*** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers ***must not*** be ticked in the question booklet.
6. ***There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.***
7. Use only **Black** or **Blue Ball Point Pen** of good quality in the OMR Answer-Sheet.
8. *Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained* **30** *minutes after starting of the examination.*

1. Which of the following chemical has sporicidal properties ?

   (1) Alcohol

   (2) Phenol

   (3) Quaternary ammonium compound

   (4) Gluteraldehyde

2. The preservative with effective properties mainly used in preservation of canned food is :

   (1) Nisin

   (2) Tylosin

   (3) Nystatin

   (4) Thermolysin

3. The chemical population of bacteria can be assessed by :

   (1) Chitin (2) Sterol

   (3) ATP (4) Histone

4. The spoilage in UHT milk is generally caused by :

   (1) Lactobacillus (2) Acetobacter

   (3) Fungi (4) Bacillus

5. At what concentration, SO_2 is added to check the growth of wild yeast and bacteria ?

   (1) 20-40 ppm

   (2) 50-70 ppm

   (3) 75-95 ppm

   (4) 80-100 ppm

6. The softening of canned tomatoes is prevented by :

(1) $CaCl_2$

(2) Solanine

(3) Dimethyl sulphide

(4) Na_2CO_3

7. High Fructose Corn Syrup (HFCS) is an acceptable substitute for :

(1) Glucose (2) Fructose

(3) Sucrose (4) Maltose

8. Chemically, Saccharin is :

(1) Neohespiridine dihydrochalcone

(2) Ortho-sulfobenzoic acid imide

(3) Stevioside

(4) Retpinyl acetate

9. Pectic acid present in :

(1) Unripe fruit

(2) Ripe fruit

(3) Over-ripe fruit

(4) None of the above

10. To check the enzymatic browning, blanching of fruits is done at :

(1) 50 °C for 5-15 min

(2) 100 °C for 2-10 min

(3) 121 °C for 10-15 min

(4) 130 °C for 5-10 min

11. Red color in watermelon is due to :

(1) Anthocyanine

(2) Lycopene

(3) Betalains

(4) Proanthocyanidins

12. Cereals are deficient in ..... and rich in ..... .

(1) Lysine, methionine

(2) Methionine, lysine

(3) Cysteine, glutamine

(4) Cysteine, tryptophan

13. The time required to destroy all microorganism at constant temperature is known as :

(1) D Value (2) Z value

(3) F Value (4) None of the above

14. In cola soft drinks, the common colorants is :

(1) Betalains (2) Azo food dye

(3) Caramel (4) Annatto

15. Which hormone extend the shelf life of fruits ?

(1) Abscisic acid

(2) Melatonin

(3) Gibberlin

(4) Auxin

16. Benedict's test is used to identify :

(1) Sucrose
(2) Reducing sugar
(3) Protein
(4) Starch

17. Ninhydrin test is used for :

(1) Polysaccharides
(2) Amylose
(3) Lipids
(4) Proteins

18. Peroxide value is measure of :

(1) Free fatty acids
(2) Rancidity
(3) Cholesterol
(4) Triglycerides

19. Baudouin test in fats is used for :

(1) Rancidity
(2) Free fatty acids
(3) Degree of unsaturation
(4) Vanaspati ghee

20. Phytates in grains :

(1) Reduce absorption of Fe
(2) Inhibit the digestive enzymes
(3) Both (1) and (2)
(4) None of the above

21. Glutenin in dough is mainly responsible for its :

(1) Extensibility
(2) Viscosity
(3) Elasticity
(4) Machinability

22. Sprouting of wheat increases :

(1) α-amylase (2) β-amylase

(3) gluten (4) None of the above

23. Semolina is produced from :

(1) Emmer wheat

(2) Bread wheat

(3) Rice

(4) Durum wheat

24. In bread making, α-amylase :

(1) Hydrolyses starch into sugars

(2) Increases bread volume

(3) Delays bread staling

(4) All of the above

25. A dimensionless ratio of inertial to viscous forces in case of fluid flow is known as :

(1) Reynolds number

(2) Prandtl number

(3) Viscosity

(4) Nusselt number

26. Celsius and Fahrenheit temperature scales have identical numerical value for a temperature of :

(1) 0°C (2) 32°C

(3) –32°C (4) –40°C

27. Quantity of heat required to raise unit degree temperature of a material is :

(1) Enthalpy

(2) Entropy

(3) Heat capacity

(4) Specific heat

28. 1 nanometer is equal to :

(1) 10^{-9} cm

(2) 10^{-7} cm

(3) 10^{-6} cm

(4) 10^{-9} mm

29. Which of the following is used as sequestrants in foods ?

(1) EDTA

(2) Polyphosphates

(3) Citric acid

(4) All of the above

30. Tomato ketchup is a good example of :

(1) Newtonian fluids

(2) Thixotropic fluids

(3) Rheopectic fluids

(4) Pseudoplastic fluids

31. CFTRI method of parboiling of rice needs :

(1) 3-4 h at 65-70 °C in water

(2) 1-2 h at 100 °C in water

(3) 8 h in 50 °C in water

(4) None of the above

32. The preservative used in squashes is :

(1) Sodium benzoate

(2) Potassium metabisulphite

(3) All of the above

(4) None of the above

33. Flavoring compound in garlic is :

(1) Allyl propyl disulphide

(2) Allyl methyl sulphide

(3) Allyl disulphide

(4) Allyl propyl sulphide

34. To retain green color during blanching, ... is used.

(1) Sodium benzoate

(2) Sodium bicarbonate

(3) Sodium chloride

(4) Sodium metaphosphate

35. Sake (Japanese wine) is produced using :

(1) Red grapes (2) Green grapes

(3) Flowers (4) Rice

36. Waxy rice contains a high proportion of :

(1) amylopectin (2) amylose

(3) starch (4) fat

37. In India, FSSAI works under :

(1) Ministry of AYUSH

(2) Agriculture and Farmers Welfare

(3) Ministry of Health and Family Welfare

(4) Consumer Affairs, Food and Public Distribution

38. HACCP come under :

(1) IS/ISO 22000

(2) IS/ISO 14001

(3) IS/ISO 31000

(4) IS/ISO 26000

39. The Codex Secretariat is located in :

(1) Rome

(2) Paris

(3) Geneva

(4) Chennai

40. The Codex Alimentarius is regulated by :

(1) FAO

(2) WHO

(3) All of the above

(4) None of the above

41. Formalin and Melamine are major adulterants used in :

(1) Fruit juices

(2) Carbonated drinks

(3) Fat

(4) Milk

42. ..... form hole eye and sweet nutty flavour in preparation of swiss cheese.

(1) Brachybacterium

(2) Acetobacterium

(3) Propionibacterium

(4) Lactococci

43. ..... is not found in egg.

(1) Vitamin D

(2) Vitamin A

(3) Vitamin BI2

(4) Vitamin C

44. The water activity of milk is around :

(1) 0.993 (2) 0.903

(3) 0.899 (4) 0.893

45. Renin is a :

(1) Adulterant (2) Preservative

(3) Emulsifier (4) Enzyme

46. Toned milk should contain :

(1) 1.5% fat and 9.0 % SNF

(2) 5.0% fat and 9.0 % SNF

(3) 4.5% fat and 8.5 % SNF

(4) 3.0% fat and 8.5 % SNF

47. Milk is low in :

(1) Fe (2) Cu

(3) Iodine (4) All of the above

48. The gas used in gas packaging of meat is :

(1) Carbon dioxide (2) Nitrogen

(3) Oxygen (4) Carbon monoxide

49. Chemical used in aseptic packaging is :

(1) Hydrogen peroxide

(2) Ethylene oxide

(3) Peracetic acid

(4) All of the above

50. Maltodextrin have DE value :

(1) Less than 20

(2) Less than 50

(3) More than 20

(4) More than 50

51. Agar is better than gelatin because :

(1) Solidifies at 75°C

(2) Is not usually decomposed by microbes

(3) All of the above

(4) None of the above

52. Ropiness in bread is caused by :

(1) Bacillus lichcnformis

(2) Serratia marcescens

(3) Geotrichum auranticum

(4) None of the above

53. Consumer Protection Act was passed in the year of :

(1) 1946

(2) 1954

(3) 1966

(4) 1986

54. Lecithin is used as :

(1) Antioxidant

(2) Stabilizer

(3) Leavening agent

(4) Emulsifier

55. Defence Food Reaearch Laboratory in India is located in :

(1) Mumbai

(2) Pune

(3) Lucknow

(4) Mysore

56. Which of the following comes under Non-mandatory Regulations ?

(1) PFA

(2) Codex Alimentarius

(3) Environmental Protection Act

(4) Environmental Protection Act

57. Hedonic rating test relates to :

(1) Comparison of treatments against a pre-determined control

(2) To the quality of fruit products made from the frozen fruits

(3) To pleasurable and unpleasurable experiences

(4) None of the above

58. Caffeine is :

(1) Purine derivative theanine

(2) Purine derivative xanthine

(3) Pyrimidine derivative xanthine

(4) Pyrimidine derivative theanine

59. Rotating is a special operation unique to the production of :

(1) Green tea

(2) White tea

(3) Black tea

(4) Oolong tea

60. Eugenol is the principal component of :

(1) Clove

(2) Cassia

(3) Cardamom

(4) Coriander

61. Which of the following is a sulphur containing spice ?

(1) Ajowan
(2) Asfoetida
(3) Clove
(4) Thyme

62. A widely used material for packaging of water and carbonated soft drinks is :

(1) PVC
(2) HOPE
(3) PET
(4) PP

63. Which of the following statement is correct ?

(1) The storage life of horticulture produce under CAP is frequently less than MAP

(2) The storage life of horticulture produce under MAP is frequently less than CAP

(3) The storage life is same in CAP and MAP

(4) None of the above

64. IPP stands for :

(1) Institute of Plastic Packaging

(2) Indian Packaging Professionals

(3) Institute of Packaging Professionals

(4) Institute of Package Protection

65. During the oil extraction from oilseeds, the removal of mucilaginous material is termed as :

(1) Degumming

(2) Tempering

(3) Bleaching

(4) Wintering

66. Fat bloom is the defect found in :

(1) Chocolate (2) Margarine

(3) Ghee (4) Yoghurt

67. Extraction of aromatic compounds into fat is called :

(1) Expression (2) Soxlet extraction

(3) Enfluerage (4) Super critical extraction

68. What is game meat ?

(1) Meat for the sports person

(2) Meat of animals used in games such as horses

(3) Meat of wild animal

(4) None of the above

69. The egg white protein which can bind with metallic ions :

(1) Ovalbumin (2) Ovomucin

(3) Avidin (4) Conalbumin

70. The enzymes used in tenderization of meat are :

(1) Papain (2) Ficin

(3) Bromelin (4) All of the above

71. Scromboid fish poisoning is the result of :

(1) Formation of histamine

(2) Formation of trimethylamine

(3) Accumulation of toxic substances

(4) Enzymatic spoilage

72. Glazing of fish is done to protect fish from :

(1) Oxidation and freezer burn

(2) Microbial spoilage

(3) Chemical spoilage

(4) None of the above

73. Nitrate and Nitrite are useful in meat processing as it :

(1) Improve colour

(2) Increase juiciness

(3) Improve tenderness

(4) Prevent microbial deterioration

74. As per PFA rules, the fat % of Khoa should not be less than :

(1) 10%

(2) 20%

(3) 30%

(4) 40%

75. National Dairy Development Board (NDDB) was created in :

(1) 1965

(2) 1966

(3) 1967

(4) 1968

76. The typical flavour of butter from ripened cream is due to :

(1) Mainly due to acetic acid and propionic acid

(2) Diacetyl

(3) Mainly of diacetyl and to a smaller extent acetic acid and propionic acid

(4) Mainly of acetic acid and propionic acid and to a smaller extent diacetyl

77. The two microorganisms growing symbiotically in production of yoghurt are :

(1) *Lact. acidophilus and Str. thermophilus*

(2) *Lact. bulgaricus and Str. thermophilus*

(3) *Lact. acidophilus and Lact. bulgaricus*

(4) *None of the above*

78. Dye reduction (MBR) test is carried out to :

(1) To detect adulteration of milk with water

(2) To determine the extent of bacterial contamination and growth in milk

(3) To determine heat stability of milk

(4) To determine the type of microorganisms present in milk

79. To PFA rule, the maximum level of common salt in butter should be :

(1) No salt (2) 1%

(3) 3% (4) 5%

80. Curd tension can be measured by :

(1) Hill Curd tension test

(2) Howard Curd tension test

(3) Haunter Curd tension test

(4) None of the above

81. Liquorice is :

(1) *Hibiscus sinensis*

(2) *Glycyrrhiza gluba*

(3) *Pyrus communis*

(4) *Malus pumila*

82. Astringency in fruits is found due to presence of :

(1) Tannins
(2) Chlorophyll
(3) Xanthophyll
(4) Peptides

83. The strength of brine is measured by :

(1) Salometer
(2) Baume's hydrometer
(3) Salinometer
(4) All of the above

84. Chill injury is most common in :

(1) Apple
(2) Banana
(3) Mango
(4) Strawberry

85. The syneresis in jellies occur mainly due to :

(1) Low sugar
(2) Excess of acid
(3) Low pectin content
(4) All of the above

86. Which of the type of pectin can be used in gel preparation by cross linking with divalent ions ?

(1) Low methoxy
(2) High methoxy
(3) Both (1) and (2)
(4) None of the above

87. Sourkraut is the :

(1) Fermented fish

(2) Fermented raddish

(3) Fermented cabbage

(4) Fermented carrot

88. Which of following is used as clarifying agent of juice ?

(1) Pectin

(2) Gelatin

(3) Calcium propionate

(4) None of the above

89. SO_2 reduces non-enzymatic browning by :

(1) Reacting with alcoholic group of sugars

(2) Reacting with aldehyde group of sugars

(3) Inactivating polyphenol oxidase

(4) All of the above

90. In the processing of sugar, thermophiles are destroyed by a combination of heat and :

(1) CO_2

(2) H_2O_2

(3) Ethylene oxide

(4) None of the above

91. The milk is pasteurized at 62.8 °C for 30 min to eliminate :

(1) *Listeria monocytogens*

(2) *Coxiella burnetti*

(3) *Callus cereus*

(4) *Mycobacterium tuberculosis*

92. In case of oil in water emulsion, oil act as :

(1) Dispersed phase

(2) Stabilizer

(3) Emulsifier

(4) Dispersing medium

93. Radappertisation is :

(1) Pasteurization

(2) Heating

(3) Sprout inhibition

(4) Sterilization

94. Raffinose is made up of :

(1) Mannose, glucose, galactose

(2) Galactose, glucose, fructose

(3) Mannose, galactose, glucose

(4) Glucose fructose, sucrose

95. Which of the following is/are natural antioxidant present in oils ?

(1) Ascorbic acid

(2) Tocopherol

(3) Butylated hydroxy hydrazine

(4) All of the above

96. BMI is equal to :

(1) Weight / (Height in meter)^2

(2) Weight/ (Height in feet)^2

(3) Weight x Height in inches

(4) Weight x Height in meter

97. Ragi is a good source of :

(1) Essential fatty acids

(2) Vitamin C

(3) Zinc

(4) Calcium

98. Which of the following fungi is responsible to produce aflatoxin ?

(1) *Aspergillus flavus*

(2) *A. normis*

(3) *A. paraciticus*

(4) All of the above

99. Puffed snack is produced from :

(1) Collet extruder

(2) Low shear cooking extruder

(3) High shear cooking extruder

(4) Pasta press

100. Cryovac is :

(1) A disinfectant used during processing in plants

(2) Polyolefin material

(3) Method of preservation at low temperature

(4) None of the above

Total No. of Printed Pages : 21

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

SET-Y

B

PHD-EE-2023-24
Food Technology

10014

Sr. No. .....

Time : **1¼ Hours** Max. Marks : **100** Total Questions : **100**

Roll No. (in figures)_____ (in words) _____

Name _____ Date of Birth_____

Father's Name _____ Mother's Name _____

Date of Examination _____

_____ _____

(Signature of the Candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. ***All questions are compulsory.***
2. The candidates ***must return*** the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
5. The candidate ***must not*** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers ***must not*** be ticked in the question booklet.
6. ***There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.***
7. Use only **Black** or **Blue Ball Point Pen** of good quality in the OMR Answer-Sheet.
8. *Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained* **30** *minutes after starting of the examination.*

1. Formalin and Melamine are major adulterants used in :

(1) Fruit juices (2) Carbonated drinks

(3) Fat (4) Milk

2. ..... form hole eye and sweet nutty flavour in preparation of swiss cheese.

(1) Brachybacterium

(2) Acetobacterium

(3) Propionibacterium

(4) Lactococci

3. ..... is not found in egg.

(1) Vitamin D

(2) Vitamin A

(3) Vitamin BI2

(4) Vitamin C

4. The water activity of milk is around :

(1) 0.993 (2) 0.903

(3) 0.899 (4) 0.893

5. Renin is a :

(1) Adulterant (2) Preservative

(3) Emulsifier (4) Enzyme

6. Toned milk should contain :

(1) 1.5% fat and 9.0 % SNF (2) 5.0% fat and 9.0 % SNF

(3) 4.5% fat and 8.5 % SNF (4) 3.0% fat and 8.5 % SNF

7. Milk is low in :

(1) Fe (2) Cu

(3) Iodine (4) All of the above

8. The gas used in gas packaging of meat is :

(1) Carbon dioxide

(2) Nitrogen

(3) Oxygen

(4) Carbon monoxide

9. Chemical used in aseptic packaging is :

(1) Hydrogen peroxide

(2) Ethylene oxide

(3) Peracetic acid

(4) All of the above

10. Maltodextrin have DE value :

(1) Less than 20 (2) Less than 50

(3) More than 20 (4) More than 50

11. Scromboid fish poisoning is the result of :

(1) Formation of histamine

(2) Formation of trimethylamine

(3) Accumulation of toxic substances

(4) Enzymatic spoilage

12. Glazing of fish is done to protect fish from :

(1) Oxidation and freezer burn

(2) Microbial spoilage

(3) Chemical spoilage

(4) None of the above

13. Nitrate and Nitrite are useful in meat processing as it :

(1) Improve colour

(2) Increase juiciness

(3) Improve tenderness

(4) Prevent microbial deterioration

14. As per PFA rules, the fat % of Khoa should not be less than :

(1) 10% (2) 20%

(3) 30% (4) 40%

15. National Dairy Development Board (NDDB) was created in :

(1) 1965 (2) 1966

(3) 1967 (4) 1968

16. The typical flavour of butter from ripened cream is due to :

(1) Mainly due to acetic acid and propionic acid

(2) Diacetyl

(3) Mainly of diacetyl and to a smaller extent acetic acid and propionic acid

(4) Mainly of acetic acid and propionic acid and to a smaller extent diacetyl

17. The two microorganisms growing symbiotically in production of yoghurt are :

(1) *Lact. acidophilus and Str. thermophilus*

(2) *Lact. bulgaricus and Str. thermophilus*

(3) *Lact. acidophilus and Lact. bulgaricus*

(4) *None of the above*

18. Dye reduction (MBR) test is carried out to :

(1) To detect adulteration of milk with water

(2) To determine the extent of bacterial contamination and growth in milk

(3) To determine heat stability of milk

(4) To determine the type of microorganisms present in milk

19. To PFA rule, the maximum level of common salt in butter should be :

(1) No salt

(2) 1%

(3) 3%

(4) 5%

20. Curd tension can be measured by :

(1) Hill Curd tension test

(2) Howard Curd tension test

(3) Haunter Curd tension test

(4) None of the above

21. The milk is pasteurized at 62.8 °C for 30 min to eliminate :

(1) *Listeria monocytogens*

(2) *Coxiella burnetti*

(3) *Callus cereus*

(4) *Mycobacterium tuberculosis*

22. In case of oil in water emulsion, oil act as :

(1) Dispersed phase

(2) Stabilizer

(3) Emulsifier

(4) Dispersing medium

23. Radappertisation is :

(1) Pasteurization

(2) Heating

(3) Sprout inhibition

(4) Sterilization

24. Raffinose is made up of :

(1) Mannose, glucose, galactose

(2) Galactose, glucose, fructose

(3) Mannose, galactose, glucose

(4) Glucose fructose, sucrose

25. Which of the following is/are natural antioxidant present in oils ?

(1) Ascorbic acid

(2) Tocopherol

(3) Butylated hydroxy hydrazine

(4) All of the above

26. BMI is equal to :

(1) Weight / (Height in meter)^2

(2) Weight/ (Height in feet)^2

(3) Weight x Height in inches

(4) Weight x Height in meter

27. Ragi is a good source of :

(1) Essential fatty acids

(2) Vitamin C

(3) Zinc

(4) Calcium

28. Which of the following fungi is responsible to produce aflatoxin ?

(1) *Aspergillus flavus*

(2) *A. normis*

(3) *A. paraciticus*

(4) All of the above

29. Puffed snack is produced from :

(1) Collet extruder

(2) Low shear cooking extruder

(3) High shear cooking extruder

(4) Pasta press

30. Cryovac is :

(1) A disinfectant used during processing in plants

(2) Polyolefin material

(3) Method of preservation at low temperature

(4) None of the above

31. Which of the following chemical has sporicidal properties ?

(1) Alcohol

(2) Phenol

(3) Quaternary ammonium compound

(4) Gluteraldehyde

32. The preservative with effective properties mainly used in preservation of canned food is :

(1) Nisin

(2) Tylosin

(3) Nystatin

(4) Thermolysin

33. The chemical population of bacteria can be assessed by :

(1) Chitin (2) Sterol

(3) ATP (4) Histone

34. The spoilage in UHT milk is generally caused by :

(1) Lactobacillus (2) Acetobacter

(3) Fungi (4) Bacillus

35. At what concentration, SO_2 is added to check the growth of wild yeast and bacteria ?

(1) 20-40 ppm
(2) 50-70 ppm
(3) 75-95 ppm
(4) 80-100 ppm

36. The softening of canned tomatoes is prevented by :

(1) $CaCl_2$
(2) Solanine
(3) Dimethyl sulphide
(4) Na_2CO_3

37. High Fructose Corn Syrup (HFCS) is an acceptable substitute for :

(1) Glucose
(2) Fructose
(3) Sucrose
(4) Maltose

38. Chemically, Saccharin is :

(1) Neohespiridine dihydrochalcone
(2) Ortho-sulfobenzoic acid imide
(3) Stevioside
(4) Retpinyl acetate

39. Pectic acid present in :

(1) Unripe fruit
(2) Ripe fruit
(3) Over-ripe fruit
(4) None of the above

40. To check the enzymatic browning, blanching of fruits is done at :

(1) 50 °C for 5-15 min

(2) 100 °C for 2-10 min

(3) 121 °C for 10-15 min

(4) 130 °C for 5-10 min

41. Agar is better than gelatin because :

(1) Solidifies at 75°C

(2) Is not usually decomposed by microbes

(3) All of the above

(4) None of the above

42. Ropiness in bread is caused by :

(1) Bacillus lichcnformis

(2) Serratia marcescens

(3) Geotrichum auranticum

(4) None of the above

43. Consumer Protection Act was passed in the year of :

(1) 1946 (2) 1954

(3) 1966 (4) 1986

44. Lecithin is used as :

(1) Antioxidant (2) Stabilizer

(3) Leavening agent (4) Emulsifier

45. Defence Food Reaearch Laboratory in India is located in :

(1) Mumbai (2) Pune

(3) Lucknow (4) Mysore

46. Which of the following comes under Non-mandatory Regulations ?

(1) PFA

(2) Codex Alimentarius

(3) Environmental Protection Act

(4) Environmental Protection Act

47. Hedonic rating test relates to :

(1) Comparison of treatments against a pre-determined control

(2) To the quality of fruit products made from the frozen fruits

(3) To pleasurable and unpleasurable experiences

(4) None of the above

48. Caffeine is :

(1) Purine derivative theanine

(2) Purine derivative xanthine

(3) Pyrimidine derivative xanthine

(4) Pyrimidine derivative theanine

49. Rotating is a special operation unique to the production of :

(1) Green tea (2) White tea

(3) Black tea (4) Oolong tea

50. Eugenol is the principal component of :

(1) Clove (2) Cassia

(3) Cardamom (4) Coriander

51. Which of the following is a sulphur containing spice ?

(1) Ajowan (2) Asfoetida

(3) Clove (4) Thyme

52. A widely used material for packaging of water and carbonated soft drinks is :

(1) PVC (2) HOPE

(3) PET (4) PP

53. Which of the following statement is correct ?

(1) The storage life of horticulture produce under CAP is frequently less than MAP

(2) The storage life of horticulture produce under MAP is frequently less than CAP

(3) The storage life is same in CAP and MAP

(4) None of the above

54. IPP stands for :

(1) Institute of Plastic Packaging

(2) Indian Packaging Professionals

(3) Institute of Packaging Professionals

(4) Institute of Package Protection

55. During the oil extraction from oilseeds, the removal of mucilaginous material is termed as :

(1) Degumming (2) Tempering

(3) Bleaching (4) Wintering

56. Fat bloom is the defect found in :

(1) Chocolate
(2) Margarine
(3) Ghee
(4) Yoghurt

57. Extraction of aromatic compounds into fat is called :

(1) Expression
(2) Soxlet extraction
(3) Enfluerage
(4) Super critical extraction

58. What is game meat ?

(1) Meat for the sports person
(2) Meat of animals used in games such as horses
(3) Meat of wild animal
(4) None of the above

59. The egg white protein which can bind with metallic ions :

(1) Ovalbumin
(2) Ovomucin
(3) Avidin
(4) Conalbumin

60. The enzymes used in tenderization of meat are :

(1) Papain
(2) Ficin
(3) Bromelin
(4) All of the above

61. Glutenin in dough is mainly responsible for its :

(1) Extensibility
(2) Viscosity
(3) Elasticity
(4) Machinability

62. Sprouting of wheat increases :

(1) α-amylase (2) β-amylase

(3) gluten (4) None of the above

63. Semolina is produced from :

(1) Emmer wheat

(2) Bread wheat

(3) Rice

(4) Durum wheat

64. In bread making, α-amylase :

(1) Hydrolyses starch into sugars

(2) Increases bread volume

(3) Delays bread staling

(4) All of the above

65. A dimensionless ratio of inertial to viscous forces in case of fluid flow is known as :

(1) Reynolds number

(2) Prandtl number

(3) Viscosity

(4) Nusselt number

66. Celsius and Fahrenheit temperature scales have identical numerical value for a temperature of :

(1) 0°C (2) 32°C

(3) –32°C (4) –40°C

67. Quantity of heat required to raise unit degree temperature of a material is :

(1) Enthalpy
(2) Entropy
(3) Heat capacity
(4) Specific heat

68. 1 nanometer is equal to :

(1) 10^{-9} cm
(2) 10^{-7} cm
(3) 10^{-6} cm
(4) 10^{-9} mm

69. Which of the following is used as sequestrants in foods ?

(1) EDTA
(2) Polyphosphates
(3) Citric acid
(4) All of the above

70. Tomato ketchup is a good example of :

(1) Newtonian fluids
(2) Thixotropic fluids
(3) Rheopectic fluids
(4) Pseudoplastic fluids

71. Red color in watermelon is due to :

(1) Anthocyanine
(2) Lycopene
(3) Betalains
(4) Proanthocyanidins

72. Cereals are deficient in ..... and rich in ..... .

(1) Lysine, methionine
(2) Methionine, lysine
(3) Cysteine, glutamine
(4) Cysteine, tryptophan

73. The time required to destroy all microorganism at constant temperature is known as :

(1) D Value (2) Z value

(3) F Value (4) None of the above

74. In cola soft drinks, the common colorants is :

(1) Betalains (2) Azo food dye

(3) Caramel (4) Annatto

75. Which hormone extend the shelf life of fruits ?

(1) Abscisic acid (2) Melatonin

(3) Gibberlin (4) Auxin

76. Benedict's test is used to identify :

(1) Sucrose (2) Reducing sugar

(3) Protein (4) Starch

77. Ninhydrin test is used for :

(1) Polysaccharides (2) Amylose

(3) Lipids (4) Proteins

78. Peroxide value is measure of :

(1) Free fatty acids (2) Rancidity

(3) Cholesterol (4) Triglycerides

79. Baudouin test in fats is used for :

(1) Rancidity (2) Free fatty acids

(3) Degree of unsaturation (4) Vanaspati ghee

80. Phytates in grains :

(1) Reduce absorption of Fe

(2) Inhibit the digestive enzymes

(3) Both (1) and (2)

(4) None of the above

81. Liquorice is :

(1) *Hibiscus sinensis*

(2) *Glycyrrhiza gluba*

(3) *Pyrus communis*

(4) *Malus pumila*

82. Astringency in fruits is found due to presence of :

(1) Tannins (2) Chlorophyll

(3) Xanthophyll (4) Peptides

83. The strength of brine is measured by :

(1) Salometer

(2) Baume's hydrometer

(3) Salinometer

(4) All of the above

84. Chill injury is most common in :

(1) Apple (2) Banana

(3) Mango (4) Strawberry

85. The syneresis in jellies occur mainly due to :

(1) Low sugar

(2) Excess of acid

(3) Low pectin content

(4) All of the above

86. Which of the type of pectin can be used in gel preparation by cross linking with divalent ions ?

(1) Low methoxy

(2) High methoxy

(3) Both (1) and (2)

(4) None of the above

87. Sourkraut is the :

(1) Fermented fish

(2) Fermented raddish

(3) Fermented cabbage

(4) Fermented carrot

88. Which of following is used as clarifying agent of juice ?

(1) Pectin

(2) Gelatin

(3) Calcium propionate

(4) None of the above

89. SO_2 reduces non-enzymatic browning by :

(1) Reacting with alcoholic group of sugars

(2) Reacting with aldehyde group of sugars

(3) Inactivating polyphenol oxidase

(4) All of the above

90. In the processing of sugar, thermophiles are destroyed by a combination of heat and :

(1) CO_2

(2) H_2O_2

(3) Ethylene oxide

(4) None of the above

91. CFTRI method of parboiling of rice needs :

(1) 3-4 h at 65-70 °C in water

(2) 1-2 h at 100 °C in water

(3) 8 h in 50 °C in water

(4) None of the above

92. The preservative used in squashes is :

(1) Sodium benzoate

(2) Potassium metabisulphite

(3) All of the above

(4) None of the above

93. Flavoring compound in garlic is :

(1) Allyl propyl disulphide

(2) Allyl methyl sulphide

(3) Allyl disulphide

(4) Allyl propyl sulphide

94. To retain green color during blanching, ... is used.

(1) Sodium benzoate

(2) Sodium bicarbonate

(3) Sodium chloride

(4) Sodium metaphosphate

95. Sake (Japanese wine) is produced using :

(1) Red grapes (2) Green grapes

(3) Flowers (4) Rice

96. Waxy rice contains a high proportion of :

(1) amylopectin (2) amylose

(3) starch (4) fat

97. In India, FSSAI works under :

(1) Ministry of AYUSH

(2) Agriculture and Farmers Welfare

(3) Ministry of Health and Family Welfare

(4) Consumer Affairs, Food and Public Distribution

98. HACCP come under :

(1) IS/ISO 22000
(2) IS/ISO 14001
(3) IS/ISO 31000
(4) IS/ISO 26000

99. The Codex Secretariat is located in :

(1) Rome
(2) Paris
(3) Geneva
(4) Chennai

100. The Codex Alimentarius is regulated by :

(1) FAO
(2) WHO
(3) All of the above
(4) None of the above

Total No. of Printed Pages : 21

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

C

SET-Y

PHD-EE-2023-24
Food Technology

10015

Sr. No. .....

Time : **1¼ Hours** Max. Marks : **100** Total Questions : **100**

Roll No. (in figures)_____ (in words) _____

Name _____ Date of Birth_____

Father's Name _____ Mother's Name _____

Date of Examination _____

_____ _____

(Signature of the Candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. ***All questions are compulsory.***
2. The candidates ***must return*** the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
5. The candidate ***must not*** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers ***must not*** be ticked in the question booklet.
6. ***There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.***
7. Use only **Black** or **Blue Ball Point Pen** of good quality in the OMR Answer-Sheet.
8. *Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained* **30** *minutes after starting of the examination.*

1. Glutenin in dough is mainly responsible for its :

   (1) Extensibility (2) Viscosity

   (3) Elasticity (4) Machinability

2. Sprouting of wheat increases :

   (1) α-amylase (2) β-amylase

   (3) gluten (4) None of the above

3. Semolina is produced from :

   (1) Emmer wheat

   (2) Bread wheat

   (3) Rice

   (4) Durum wheat

4. In bread making, α-amylase :

   (1) Hydrolyses starch into sugars

   (2) Increases bread volume

   (3) Delays bread staling

   (4) All of the above

5. A dimensionless ratio of inertial to viscous forces in case of fluid flow is known as :

   (1) Reynolds number

   (2) Prandtl number

   (3) Viscosity

   (4) Nusselt number

6. Celsius and Fahrenheit temperature scales have identical numerical value for a temperature of :

(1) 0°C (2) 32°C

(3) –32°C (4) –40°C

7. Quantity of heat required to raise unit degree temperature of a material is :

(1) Enthalpy (2) Entropy

(3) Heat capacity (4) Specific heat

8. 1 nanometer is equal to :

(1) 10^{-9} cm (2) 10^{-7} cm

(3) 10^{-6} cm (4) 10^{-9} mm

9. Which of the following is used as sequestrants in foods ?

(1) EDTA (2) Polyphosphates

(3) Citric acid (4) All of the above

10. Tomato ketchup is a good example of :

(1) Newtonian fluids (2) Thixotropic fluids

(3) Rheopectic fluids (4) Pseudoplastic fluids

11. Agar is better than gelatin because :

(1) Solidifies at 75°C

(2) Is not usually decomposed by microbes

(3) All of the above

(4) None of the above

12. Ropiness in bread is caused by :

(1) Bacillus lichcnformis
(2) Serratia marcescens
(3) Geotrichum auranticum
(4) None of the above

13. Consumer Protection Act was passed in the year of :

(1) 1946
(2) 1954
(3) 1966
(4) 1986

14. Lecithin is used as :

(1) Antioxidant
(2) Stabilizer
(3) Leavening agent
(4) Emulsifier

15. Defence Food Reaearch Laboratory in India is located in :

(1) Mumbai
(2) Pune
(3) Lucknow
(4) Mysore

16. Which of the following comes under Non-mandatory Regulations ?

(1) PFA
(2) Codex Alimentarius
(3) Environmental Protection Act
(4) Environmental Protection Act

17. Hedonic rating test relates to :

(1) Comparison of treatments against a pre-determined control
(2) To the quality of fruit products made from the frozen fruits
(3) To pleasurable and unpleasurable experiences
(4) None of the above

18. Caffeine is :

(1) Purine derivative theanine

(2) Purine derivative xanthine

(3) Pyrimidine derivative xanthine

(4) Pyrimidine derivative theanine

19. Rotating is a special operation unique to the production of :

(1) Green tea (2) White tea

(3) Black tea (4) Oolong tea

20. Eugenol is the principal component of :

(1) Clove (2) Cassia

(3) Cardamom (4) Coriander

21. Liquorice is :

(1) *Hibiscus sinensis*

(2) *Glycyrrhiza gluba*

(3) *Pyrus communis*

(4) *Malus pumila*

22. Astringency in fruits is found due to presence of :

(1) Tannins (2) Chlorophyll

(3) Xanthophyll (4) Peptides

23. The strength of brine is measured by :

(1) Salometer (2) Baume's hydrometer

(3) Salinometer (4) All of the above

24. Chill injury is most common in :

(1) Apple

(2) Banana

(3) Mango

(4) Strawberry

25. The syneresis in jellies occur mainly due to :

(1) Low sugar

(2) Excess of acid

(3) Low pectin content

(4) All of the above

26. Which of the type of pectin can be used in gel preparation by cross linking with divalent ions ?

(1) Low methoxy

(2) High methoxy

(3) Both (1) and (2)

(4) None of the above

27. Sourkraut is the :

(1) Fermented fish

(2) Fermented raddish

(3) Fermented cabbage

(4) Fermented carrot

28. Which of following is used as clarifying agent of juice ?

(1) Pectin

(2) Gelatin

(3) Calcium propionate

(4) None of the above

29. SO_2 reduces non-enzymatic browning by :

(1) Reacting with alcoholic group of sugars

(2) Reacting with aldehyde group of sugars

(3) Inactivating polyphenol oxidase

(4) All of the above

30. In the processing of sugar, thermophiles are destroyed by a combination of heat and :

(1) CO_2

(2) H_2O_2

(3) Ethylene oxide

(4) None of the above

31. Scromboid fish poisoning is the result of :

(1) Formation of histamine

(2) Formation of trimethylamine

(3) Accumulation of toxic substances

(4) Enzymatic spoilage

32. Glazing of fish is done to protect fish from :

(1) Oxidation and freezer burn

(2) Microbial spoilage

(3) Chemical spoilage

(4) None of the above

33. Nitrate and Nitrite are useful in meat processing as it :

(1) Improve colour

(2) Increase juiciness

(3) Improve tenderness

(4) Prevent microbial deterioration

34. As per PFA rules, the fat % of Khoa should not be less than :

(1) 10% (2) 20%

(3) 30% (4) 40%

35. National Dairy Development Board (NDDB) was created in :

(1) 1965 (2) 1966

(3) 1967 (4) 1968

36. The typical flavour of butter from ripened cream is due to :

(1) Mainly due to acetic acid and propionic acid

(2) Diacetyl

(3) Mainly of diacetyl and to a smaller extent acetic acid and propionic acid

(4) Mainly of acetic acid and propionic acid and to a smaller extent diacetyl

37. The two microorganisms growing symbiotically in production of yoghurt are :

(1) *Lact. acidophilus and Str. thermophilus*

(2) *Lact. bulgaricus and Str. thermophilus*

(3) *Lact. acidophilus and Lact. bulgaricus*

(4) *None of the above*

38. Dye reduction (MBR) test is carried out to :

(1) To detect adulteration of milk with water

(2) To determine the extent of bacterial contamination and growth in milk

(3) To determine heat stability of milk

(4) To determine the type of microorganisms present in milk

39. To PFA rule, the maximum level of common salt in butter should be :

(1) No salt (2) 1%

(3) 3% (4) 5%

40. Curd tension can be measured by :

(1) Hill Curd tension test

(2) Howard Curd tension test

(3) Haunter Curd tension test

(4) None of the above

41. Red color in watermelon is due to :

(1) Anthocyanine

(2) Lycopene

(3) Betalains

(4) Proanthocyanidins

42. Cereals are deficient in ..... and rich in ..... .

(1) Lysine, methionine

(2) Methionine, lysine

(3) Cysteine, glutamine

(4) Cysteine, tryptophan

43. The time required to destroy all microorganism at constant temperature is known as :

(1) D Value (2) Z value

(3) F Value (4) None of the above

44. In cola soft drinks, the common colorants is :

(1) Betalains (2) Azo food dye

(3) Caramel (4) Annatto

45. Which hormone extend the shelf life of fruits ?

(1) Abscisic acid

(2) Melatonin

(3) Gibberlin

(4) Auxin

46. Benedict's test is used to identify :

(1) Sucrose (2) Reducing sugar

(3) Protein (4) Starch

47. Ninhydrin test is used for :

(1) Polysaccharides (2) Amylose

(3) Lipids (4) Proteins

48. Peroxide value is measure of :

(1) Free fatty acids
(2) Rancidity
(3) Cholesterol
(4) Triglycerides

49. Baudouin test in fats is used for :

(1) Rancidity
(2) Free fatty acids
(3) Degree of unsaturation
(4) Vanaspati ghee

50. Phytates in grains :

(1) Reduce absorption of Fe
(2) Inhibit the digestive enzymes
(3) Both (1) and (2)
(4) None of the above

51. CFTRI method of parboiling of rice needs :

(1) 3-4 h at 65-70 °C in water
(2) 1-2 h at 100 °C in water
(3) 8 h in 50 °C in water
(4) None of the above

52. The preservative used in squashes is :

(1) Sodium benzoate
(2) Potassium metabisulphite
(3) All of the above
(4) None of the above

53. Flavoring compound in garlic is :

(1) Allyl propyl disulphide

(2) Allyl methyl sulphide

(3) Allyl disulphide

(4) Allyl propyl sulphide

54. To retain green color during blanching, ... is used.

(1) Sodium benzoate

(2) Sodium bicarbonate

(3) Sodium chloride

(4) Sodium metaphosphate

55. Sake (Japanese wine) is produced using :

(1) Red grapes

(2) Green grapes

(3) Flowers

(4) Rice

56. Waxy rice contains a high proportion of :

(1) amylopectin

(2) amylose

(3) starch

(4) fat

57. In India, FSSAI works under :

(1) Ministry of AYUSH

(2) Agriculture and Farmers Welfare

(3) Ministry of Health and Family Welfare

(4) Consumer Affairs, Food and Public Distribution

58. HACCP come under :

(1) IS/ISO 22000 (2) IS/ISO 14001

(3) IS/ISO 31000 (4) IS/ISO 26000

59. The Codex Secretariat is located in :

(1) Rome (2) Paris

(3) Geneva (4) Chennai

60. The Codex Alimentarius is regulated by :

(1) FAO (2) WHO

(3) All of the above (4) None of the above

61. Which of the following chemical has sporicidal properties ?

(1) Alcohol

(2) Phenol

(3) Quaternary ammonium compound

(4) Gluteraldehyde

62. The preservative with effective properties mainly used in preservation of canned food is :

(1) Nisin

(2) Tylosin

(3) Nystatin

(4) Thermolysin

63. The chemical population of bacteria can be assessed by :

(1) Chitin (2) Sterol

(3) ATP (4) Histone

64. The spoilage in UHT milk is generally caused by :

(1) Lactobacillus
(2) Acetobacter
(3) Fungi
(4) Bacillus

65. At what concentration, SO_2 is added to check the growth of wild yeast and bacteria ?

(1) 20-40 ppm
(2) 50-70 ppm
(3) 75-95 ppm
(4) 80-100 ppm

66. The softening of canned tomatoes is prevented by :

(1) $CaCl_2$
(2) Solanine
(3) Dimethyl sulphide
(4) Na_2CO_3

67. High Fructose Corn Syrup (HFCS) is an acceptable substitute for :

(1) Glucose
(2) Fructose
(3) Sucrose
(4) Maltose

68. Chemically, Saccharin is :

(1) Neohespiridine dihydrochalcone
(2) Ortho-sulfobenzoic acid imide
(3) Stevioside
(4) Retpinyl acetate

69. Pectic acid present in :

(1) Unripe fruit

(2) Ripe fruit

(3) Over-ripe fruit

(4) None of the above

70. To check the enzymatic browning, blanching of fruits is done at :

(1) 50 °C for 5-15 min

(2) 100 °C for 2-10 min

(3) 121 °C for 10-15 min

(4) 130 °C for 5-10 min

71. Formalin and Melamine are major adulterants used in :

(1) Fruit juices

(2) Carbonated drinks

(3) Fat

(4) Milk

72. ..... form hole eye and sweet nutty flavour in preparation of swiss cheese.

(1) Brachybacterium

(2) Acetobacterium

(3) Propionibacterium

(4) Lactococci

73. ..... is not found in egg.

(1) Vitamin D

(2) Vitamin A

(3) Vitamin BI2

(4) Vitamin C

74. The water activity of milk is around :

(1) 0.993

(2) 0.903

(3) 0.899

(4) 0.893

75. Renin is a :

(1) Adulterant

(2) Preservative

(3) Emulsifier

(4) Enzyme

76. Toned milk should contain :

(1) 1.5% fat and 9.0 % SNF

(2) 5.0% fat and 9.0 % SNF

(3) 4.5% fat and 8.5 % SNF

(4) 3.0% fat and 8.5 % SNF

77. Milk is low in :

(1) Fe

(2) Cu

(3) Iodine

(4) All of the above

78. The gas used in gas packaging of meat is :

(1) Carbon dioxide

(2) Nitrogen

(3) Oxygen

(4) Carbon monoxide

79. Chemical used in aseptic packaging is :

(1) Hydrogen peroxide

(2) Ethylene oxide

(3) Peracetic acid

(4) All of the above

80. Maltodextrin have DE value :

(1) Less than 20

(2) Less than 50

(3) More than 20

(4) More than 50

81. The milk is pasteurized at 62.8 °C for 30 min to eliminate :

(1) *Listeria monocytogens*

(2) *Coxiella burnetti*

(3) *Callus cereus*

(4) *Mycobacterium tuberculosis*

82. In case of oil in water emulsion, oil act as :

(1) Dispersed phase

(2) Stabilizer

(3) Emulsifier

(4) Dispersing medium

83. Radappertisation is :

(1) Pasteurization

(2) Heating

(3) Sprout inhibition

(4) Sterilization

84. Raffinose is made up of :

(1) Mannose, glucose, galactose

(2) Galactose, glucose, fructose

(3) Mannose, galactose, glucose

(4) Glucose fructose, sucrose

85. Which of the following is/are natural antioxidant present in oils ?

(1) Ascorbic acid

(2) Tocopherol

(3) Butylated hydroxy hydrazine

(4) All of the above

86. BMI is equal to :

(1) Weight / (Height in meter)^2

(2) Weight/ (Height in feet)^2

(3) Weight x Height in inches

(4) Weight x Height in meter

87. Ragi is a good source of :

(1) Essential fatty acids

(2) Vitamin C

(3) Zinc

(4) Calcium

88. Which of the following fungi is responsible to produce aflatoxin ?

(1) *Aspergillus flavus*

(2) *A. normis*

(3) *A. paraciticus*

(4) All of the above

89. Puffed snack is produced from :

(1) Collet extruder

(2) Low shear cooking extruder

(3) High shear cooking extruder

(4) Pasta press

90. Cryovac is :

(1) A disinfectant used during processing in plants

(2) Polyolefin material

(3) Method of preservation at low temperature

(4) None of the above

91. Which of the following is a sulphur containing spice ?

(1) Ajowan

(2) Asfoetida

(3) Clove

(4) Thyme

92. A widely used material for packaging of water and carbonated soft drinks is :

(1) PVC

(2) HOPE

(3) PET

(4) PP

93. Which of the following statement is correct ?

(1) The storage life of horticulture produce under CAP is frequently less than MAP

(2) The storage life of horticulture produce under MAP is frequently less than CAP

(3) The storage life is same in CAP and MAP

(4) None of the above

94. IPP stands for :

(1) Institute of Plastic Packaging

(2) Indian Packaging Professionals

(3) Institute of Packaging Professionals

(4) Institute of Package Protection

95. During the oil extraction from oilseeds, the removal of mucilaginous material is termed as :

(1) Degumming

(2) Tempering

(3) Bleaching

(4) Wintering

96. Fat bloom is the defect found in :

(1) Chocolate (2) Margarine

(3) Ghee (4) Yoghurt

97. Extraction of aromatic compounds into fat is called :

(1) Expression (2) Soxlet extraction

(3) Enfluerage (4) Super critical extraction

98. What is game meat ?

(1) Meat for the sports person

(2) Meat of animals used in games such as horses

(3) Meat of wild animal

(4) None of the above

99. The egg white protein which can bind with metallic ions :

(1) Ovalbumin (2) Ovomucin

(3) Avidin (4) Conalbumin

100. The enzymes used in tenderization of meat are :

(1) Papain (2) Ficin

(3) Bromelin (4) All of the above

Total No. of Printed Pages : 21

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

D

SET-Y

PHD-EE-2023-24
Food Technology

10016

Sr. No. .....

Time : **1¼ Hours** Max. Marks : **100** Total Questions : **100**

Roll No. (in figures)_____ (in words) _____

Name _____ Date of Birth_____

Father's Name _____ Mother's Name _____

Date of Examination _____

_____ _____

(Signature of the Candidate) (Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. ***All questions are compulsory.***
2. The candidates ***must return*** the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
4. Question Booklet along with answer key of all the A, B, C & D code shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. Thereafter, no complaint in any case, will be considered.
5. The candidate ***must not*** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers ***must not*** be ticked in the question booklet.
6. ***There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.***
7. Use only **Black** or **Blue Ball Point Pen** of good quality in the OMR Answer-Sheet.
8. *Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained* **30** *minutes after starting of the examination.*

1. The milk is pasteurized at 62.8 °C for 30 min to eliminate :

   (1) *Listeria monocytogens*

   (2) *Coxiella burnetti*

   (3) *Callus cereus*

   (4) *Mycobacterium tuberculosis*

2. In case of oil in water emulsion, oil act as :

   (1) Dispersed phase

   (2) Stabilizer

   (3) Emulsifier

   (4) Dispersing medium

3. Radappertisation is :

   (1) Pasteurization

   (2) Heating

   (3) Sprout inhibition

   (4) Sterilization

4. Raffinose is made up of :

   (1) Mannose, glucose, galactose

   (2) Galactose, glucose, fructose

   (3) Mannose, galactose, glucose

   (4) Glucose fructose, sucrose

5. Which of the following is/are natural antioxidant present in oils ?

(1) Ascorbic acid

(2) Tocopherol

(3) Butylated hydroxy hydrazine

(4) All of the above

6. BMI is equal to :

(1) Weight / (Height in meter)^2

(2) Weight/ (Height in feet)^2

(3) Weight x Height in inches

(4) Weight x Height in meter

7. Ragi is a good source of :

(1) Essential fatty acids

(2) Vitamin C

(3) Zinc

(4) Calcium

8. Which of the following fungi is responsible to produce aflatoxin ?

(1) *Aspergillus flavus*

(2) *A. normis*

(3) *A. paraciticus*

(4) All of the above

9. Puffed snack is produced from :

(1) Collet extruder

(2) Low shear cooking extruder

(3) High shear cooking extruder

(4) Pasta press

10. Cryovac is :

(1) A disinfectant used during processing in plants

(2) Polyolefin material

(3) Method of preservation at low temperature

(4) None of the above

11. CFTRI method of parboiling of rice needs :

(1) 3-4 h at 65-70 °C in water

(2) 1-2 h at 100 °C in water

(3) 8 h in 50 °C in water

(4) None of the above

12. The preservative used in squashes is :

(1) Sodium benzoate

(2) Potassium metabisulphite

(3) All of the above

(4) None of the above

13. Flavoring compound in garlic is :

(1) Allyl propyl disulphide

(2) Allyl methyl sulphide

(3) Allyl disulphide

(4) Allyl propyl sulphide

14. To retain green color during blanching, ... is used.

(1) Sodium benzoate

(2) Sodium bicarbonate

(3) Sodium chloride

(4) Sodium metaphosphate

15. Sake (Japanese wine) is produced using :

(1) Red grapes (2) Green grapes

(3) Flowers (4) Rice

16. Waxy rice contains a high proportion of :

(1) amylopectin (2) amylose

(3) starch (4) fat

17. In India, FSSAI works under :

(1) Ministry of AYUSH

(2) Agriculture and Farmers Welfare

(3) Ministry of Health and Family Welfare

(4) Consumer Affairs, Food and Public Distribution

18. HACCP come under :

(1) IS/ISO 22000 (2) IS/ISO 14001

(3) IS/ISO 31000 (4) IS/ISO 26000

19. The Codex Secretariat is located in :

(1) Rome (2) Paris

(3) Geneva (4) Chennai

20. The Codex Alimentarius is regulated by :

(1) FAO (2) WHO

(3) All of the above (4) None of the above

21. Scromboid fish poisoning is the result of :

(1) Formation of histamine

(2) Formation of trimethylamine

(3) Accumulation of toxic substances

(4) Enzymatic spoilage

22. Glazing of fish is done to protect fish from :

(1) Oxidation and freezer burn

(2) Microbial spoilage

(3) Chemical spoilage

(4) None of the above

23. Nitrate and Nitrite are useful in meat processing as it :

(1) Improve colour (2) Increase juiciness

(3) Improve tenderness (4) Prevent microbial deterioration

24. As per PFA rules, the fat % of Khoa should not be less than :

(1) 10%

(2) 20%

(3) 30%

(4) 40%

25. National Dairy Development Board (NDDB) was created in :

(1) 1965

(2) 1966

(3) 1967

(4) 1968

26. The typical flavour of butter from ripened cream is due to :

(1) Mainly due to acetic acid and propionic acid

(2) Diacetyl

(3) Mainly of diacetyl and to a smaller extent acetic acid and propionic acid

(4) Mainly of acetic acid and propionic acid and to a smaller extent diacetyl

27. The two microorganisms growing symbiotically in production of yoghurt are :

(1) *Lact. acidophilus and Str. thermophilus*

(2) *Lact. bulgaricus and Str. thermophilus*

(3) *Lact. acidophilus and Lact. bulgaricus*

(4) *None of the above*

28. Dye reduction (MBR) test is carried out to :

(1) To detect adulteration of milk with water

(2) To determine the extent of bacterial contamination and growth in milk

(3) To determine heat stability of milk

(4) To determine the type of microorganisms present in milk

29. To PFA rule, the maximum level of common salt in butter should be :

(1) No salt (2) 1%

(3) 3% (4) 5%

30. Curd tension can be measured by :

(1) Hill Curd tension test

(2) Howard Curd tension test

(3) Haunter Curd tension test

(4) None of the above

31. Glutenin in dough is mainly responsible for its :

(1) Extensibility (2) Viscosity

(3) Elasticity (4) Machinability

32. Sprouting of wheat increases :

(1) α-amylase (2) β-amylase

(3) gluten (4) None of the above

33. Semolina is produced from :

(1) Emmer wheat (2) Bread wheat

(3) Rice (4) Durum wheat

34. In bread making, α-amylase :

(1) Hydrolyses starch into sugars

(2) Increases bread volume

(3) Delays bread staling

(4) All of the above

35. A dimensionless ratio of inertial to viscous forces in case of fluid flow is known as :

(1) Reynolds number

(2) Prandtl number

(3) Viscosity

(4) Nusselt number

36. Celsius and Fahrenheit temperature scales have identical numerical value for a temperature of :

(1) 0°C (2) 32°C

(3) –32°C (4) –40°C

37. Quantity of heat required to raise unit degree temperature of a material is :

(1) Enthalpy (2) Entropy

(3) Heat capacity (4) Specific heat

38. 1 nanometer is equal to :

(1) 10^{-9} cm (2) 10^{-7} cm

(3) 10^{-6} cm (4) 10^{-9} mm

39. Which of the following is used as sequestrants in foods ?

(1) EDTA (2) Polyphosphates

(3) Citric acid (4) All of the above

40. Tomato ketchup is a good example of :

(1) Newtonian fluids

(2) Thixotropic fluids

(3) Rheopectic fluids

(4) Pseudoplastic fluids

41. Which of the following is a sulphur containing spice ?

(1) Ajowan (2) Asfoetida

(3) Clove (4) Thyme

42. A widely used material for packaging of water and carbonated soft drinks is :

(1) PVC (2) HOPE

(3) PET (4) PP

43. Which of the following statement is correct ?

(1) The storage life of horticulture produce under CAP is frequently less than MAP

(2) The storage life of horticulture produce under MAP is frequently less than CAP

(3) The storage life is same in CAP and MAP

(4) None of the above

44. IPP stands for :

(1) Institute of Plastic Packaging

(2) Indian Packaging Professionals

(3) Institute of Packaging Professionals

(4) Institute of Package Protection

45. During the oil extraction from oilseeds, the removal of mucilaginous material is termed as :

(1) Degumming

(2) Tempering

(3) Bleaching

(4) Wintering

46. Fat bloom is the defect found in :

(1) Chocolate (2) Margarine

(3) Ghee (4) Yoghurt

47. Extraction of aromatic compounds into fat is called :

(1) Expression (2) Soxlet extraction

(3) Enfluerage (4) Super critical extraction

48. What is game meat ?

(1) Meat for the sports person

(2) Meat of animals used in games such as horses

(3) Meat of wild animal

(4) None of the above

49. The egg white protein which can bind with metallic ions :

(1) Ovalbumin (2) Ovomucin

(3) Avidin (4) Conalbumin

50. The enzymes used in tenderization of meat are :

(1) Papain (2) Ficin

(3) Bromelin (4) All of the above

51. Liquorice is :

(1) *Hibiscus sinensis*

(2) *Glycyrrhiza gluba*

(3) *Pyrus communis*

(4) *Malus pumila*

52. Astringency in fruits is found due to presence of :

(1) Tannins

(2) Chlorophyll

(3) Xanthophyll

(4) Peptides

53. The strength of brine is measured by :

(1) Salometer

(2) Baume's hydrometer

(3) Salinometer

(4) All of the above

54. Chill injury is most common in :

(1) Apple

(2) Banana

(3) Mango

(4) Strawberry

55. The syneresis in jellies occur mainly due to :

(1) Low sugar

(2) Excess of acid

(3) Low pectin content

(4) All of the above

56. Which of the type of pectin can be used in gel preparation by cross linking with divalent ions ?

(1) Low methoxy

(2) High methoxy

(3) Both (1) and (2)

(4) None of the above

57. Sourkraut is the :

(1) Fermented fish

(2) Fermented raddish

(3) Fermented cabbage

(4) Fermented carrot

58. Which of following is used as clarifying agent of juice ?

(1) Pectin

(2) Gelatin

(3) Calcium propionate

(4) None of the above

59. SO_2 reduces non-enzymatic browning by :

(1) Reacting with alcoholic group of sugars

(2) Reacting with aldehyde group of sugars

(3) Inactivating polyphenol oxidase

(4) All of the above

60. In the processing of sugar, thermophiles are destroyed by a combination of heat and :

(1) CO_2

(2) H_2O_2

(3) Ethylene oxide

(4) None of the above

61. Formalin and Melamine are major adulterants used in :

(1) Fruit juices
(2) Carbonated drinks
(3) Fat
(4) Milk

62. ..... form hole eye and sweet nutty flavour in preparation of swiss cheese.

(1) Brachybacterium
(2) Acetobacterium
(3) Propionibacterium
(4) Lactococci

63. ..... is not found in egg.

(1) Vitamin D
(2) Vitamin A
(3) Vitamin BI2
(4) Vitamin C

64. The water activity of milk is around :

(1) 0.993
(2) 0.903
(3) 0.899
(4) 0.893

65. Renin is a :

(1) Adulterant
(2) Preservative
(3) Emulsifier
(4) Enzyme

66. Toned milk should contain :

(1) 1.5% fat and 9.0 % SNF
(2) 5.0% fat and 9.0 % SNF
(3) 4.5% fat and 8.5 % SNF
(4) 3.0% fat and 8.5 % SNF

67. Milk is low in :

(1) Fe

(2) Cu

(3) Iodine

(4) All of the above

68. The gas used in gas packaging of meat is :

(1) Carbon dioxide

(2) Nitrogen

(3) Oxygen

(4) Carbon monoxide

69. Chemical used in aseptic packaging is :

(1) Hydrogen peroxide

(2) Ethylene oxide

(3) Peracetic acid

(4) All of the above

70. Maltodextrin have DE value :

(1) Less than 20

(2) Less than 50

(3) More than 20

(4) More than 50

71. Agar is better than gelatin because :

(1) Solidifies at 75°C

(2) Is not usually decomposed by microbes

(3) All of the above

(4) None of the above

72. Ropiness in bread is caused by :

(1) Bacillus lichcnformis

(2) Serratia marcescens

(3) Geotrichum auranticum

(4) None of the above

73. Consumer Protection Act was passed in the year of :

(1) 1946 (2) 1954

(3) 1966 (4) 1986

74. Lecithin is used as :

(1) Antioxidant

(2) Stabilizer

(3) Leavening agent

(4) Emulsifier

75. Defence Food Reaearch Laboratory in India is located in :

(1) Mumbai (2) Pune

(3) Lucknow (4) Mysore

76. Which of the following comes under Non-mandatory Regulations ?

(1) PFA

(2) Codex Alimentarius

(3) Environmental Protection Act

(4) Environmental Protection Act

77. Hedonic rating test relates to :

(1) Comparison of treatments against a pre-determined control

(2) To the quality of fruit products made from the frozen fruits

(3) To pleasurable and unpleasurable experiences

(4) None of the above

78. Caffeine is :

(1) Purine derivative theanine

(2) Purine derivative xanthine

(3) Pyrimidine derivative xanthine

(4) Pyrimidine derivative theanine

79. Rotating is a special operation unique to the production of :

(1) Green tea (2) White tea

(3) Black tea (4) Oolong tea

80. Eugenol is the principal component of :

(1) Clove (2) Cassia

(3) Cardamom (4) Coriander

81. Which of the following chemical has sporicidal properties ?

(1) Alcohol

(2) Phenol

(3) Quaternary ammonium compound

(4) Gluteraldehyde

82. The preservative with effective properties mainly used in preservation of canned food is :

(1) Nisin

(2) Tylosin

(3) Nystatin

(4) Thermolysin

83. The chemical population of bacteria can be assessed by :

(1) Chitin (2) Sterol

(3) ATP (4) Histone

84. The spoilage in UHT milk is generally caused by :

(1) Lactobacillus (2) Acetobacter

(3) Fungi (4) Bacillus

85. At what concentration, SO_2 is added to check the growth of wild yeast and bacteria ?

(1) 20-40 ppm

(2) 50-70 ppm

(3) 75-95 ppm

(4) 80-100 ppm

86. The softening of canned tomatoes is prevented by :

(1) $CaCl_2$

(2) Solanine

(3) Dimethyl sulphide

(4) Na_2CO_3

87. High Fructose Corn Syrup (HFCS) is an acceptable substitute for :

(1) Glucose
(2) Fructose
(3) Sucrose
(4) Maltose

88. Chemically, Saccharin is :

(1) Neohespiridine dihydrochalcone
(2) Ortho-sulfobenzoic acid imide
(3) Stevioside
(4) Retpinyl acetate

89. Pectic acid present in :

(1) Unripe fruit
(2) Ripe fruit
(3) Over-ripe fruit
(4) None of the above

90. To check the enzymatic browning, blanching of fruits is done at :

(1) 50 °C for 5-15 min
(2) 100 °C for 2-10 min
(3) 121 °C for 10-15 min
(4) 130 °C for 5-10 min

91. Red color in watermelon is due to :

(1) Anthocyanine
(2) Lycopene
(3) Betalains
(4) Proanthocyanidins

92. Cereals are deficient in ..... and rich in ..... .

(1) Lysine, methionine

(2) Methionine, lysine

(3) Cysteine, glutamine

(4) Cysteine, tryptophan

93. The time required to destroy all microorganism at constant temperature is known as :

(1) D Value (2) Z value

(3) F Value (4) None of the above

94. In cola soft drinks, the common colorants is :

(1) Betalains (2) Azo food dye

(3) Caramel (4) Annatto

95. Which hormone extend the shelf life of fruits ?

(1) Abscisic acid (2) Melatonin

(3) Gibberlin (4) Auxin

96. Benedict's test is used to identify :

(1) Sucrose (2) Reducing sugar

(3) Protein (4) Starch

97. Ninhydrin test is used for :

(1) Polysaccharides

(2) Amylose

(3) Lipids

(4) Proteins

98. Peroxide value is measure of :

(1) Free fatty acids
(2) Rancidity
(3) Cholesterol
(4) Triglycerides

99. Baudouin test in fats is used for :

(1) Rancidity
(2) Free fatty acids
(3) Degree of unsaturation
(4) Vanaspati ghee

100. Phytates in grains :

(1) Reduce absorption of Fe
(2) Inhibit the digestive enzymes
(3) Both (1) and (2)
(4) None of the above

Answer keys of PHD-EE-2023-24 (FOOD TECHNOLOGY) entrance exam dated 22.03.2024				
Q. NO.	A	B	C	D
1	4	4	3	2
2	1	3	1	1
3	3	4	4	4
4	4	1	4	2
5	2	4	1	2
6	1	4	4	1
7	3	4	4	4
8	2	2	2	4
9	3	4	4	1
10	2	1	4	2
11	2	1	3	1
12	1	1	1	3
13	3	1	4	3
14	3	2	4	2
15	3	1	4	4
16	2	3	2	1
17	4	2	3	3
18	2	2	2	1
19	4	3	4	1
20	3	1	1	3
21	3	2	2	1
22	1	1	1	1
23	4	4	4	1
24	4	2	2	2
25	1	2	4	1
26	4	1	1	3
27	4	4	3	2
28	2	4	2	2
29	4	1	2	3
30	4	2	1	1
31	1	4	1	3
32	3	1	1	1
33	3	3	1	4
34	2	4	2	4
35	4	2	1	1
36	1	1	3	4
37	3	3	2	4
38	1	2	2	2
39	1	3	3	4
40	3	2	1	4
41	4	3	2	2
42	3	1	1	3
43	4	4	3	2
44	1	4	3	3
45	4	4	3	1
46	4	2	2	1
47	4	3	4	3
48	2	2	2	3
49	4	4	4	4
50	1	1	3	4

22/3/24 22/3/24 22-3-24

Answer keys of PHD-EE-2023-24 (FOOD TECHNOLOGY) entrance exam dated 22.03.2024				
Q. NO.	A	B	C	D
51	3	2	1	2
52	1	3	3	1
53	4	2	3	4
54	4	3	2	2
55	4	1	4	4
56	2	1	1	1
57	3	3	3	3
58	2	3	1	2
59	4	4	1	2
60	1	4	3	1
61	2	3	4	4
62	3	1	1	3
63	2	4	3	4
64	3	4	4	1
65	1	1	2	4
66	1	4	1	4
67	3	4	3	4
68	3	2	2	2
69	4	4	3	4
70	4	4	2	1
71	1	2	4	3
72	1	1	3	1
73	1	3	4	4
74	2	3	1	4
75	1	3	4	4
76	3	2	4	2
77	2	4	4	3
78	2	2	2	2
79	3	4	4	4
80	1	3	1	1
81	2	2	2	4
82	1	1	1	1
83	4	4	4	3
84	2	2	2	4
85	4	4	2	2
86	1	1	1	1
87	3	3	4	3
88	2	2	4	2
89	2	2	1	3
90	1	1	2	2
91	2	1	2	2
92	1	3	3	1
93	4	3	2	3
94	2	2	3	3
95	2	4	1.	3
96	1	1	1	2
97	4	3	3	4
98	4	1	3	2
99	1	1	4	4
100	2	3	4	3

22/3/24 22/3/24 Typed 22-3-24