Total No. of Printed Pages : 21

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A

PHD/URS-EE-DEC-2022

SET-Y

SUBJECT : Food Technology

10017

Sr. No. .....

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

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

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1. Mark the correct statement :

(1) During growth phase of freezing, a large number of small ice nuclei are formed

(2) During fast freezing, less number small ice crystals are formed

(3) During slow freezing, large number of small ice crystals are formed

(4) During fast freezing, large number of small ice crystals are formed

2. Match various phases of a typical bacterial growth cycle in **Group-I** with most appropriate bacterial activity in **Group-II** :

Group-I	**Group-II**
P. Lag Phase	1. Number of viable cells decreases
Q. Exponential Phase	2. Growth ceases and population remains constant
R. Stationary Phase	3. Preparatory phase for cell division
S. Decline Phase	4. Cells divide steadily at constant rate

(1) P-2, Q-3, R-1, S-4

(2) P-3, Q-4, R-2, S-1

(3) P-3, Q-4, R-1, S-2

(4) P-4, Q-2, R-3, S-1

3. The Codex Alimentarius Commission was established in :

(1) 1969 (2) 1959 (3) 1972 (4) 1962

4. Red spot defect on the surface of meat is caused by :

(1) *Pseudomonas syncyanea*

(2) *Serratia marcescens*

(3) *Flavobacterium*

(4) *Chromobacterium*

5. Which of the following microbial products are known to control food spoilage ?

(1) Bacteriocins (2) Perforins

(3) Antibiotics (4) T4 lysozyme

6. Which of the following operation reduces the dietary fibre content in cereals ?

(1) Drying (2) Retrogradation

(3) Grinding (4) Milling

7. Residues of bisphenol A in food are due to :

(1) Migration from packaging made from plastics & epoxy resins

(2) Frying of food at high temperature

(3) Use of amorphous pesticides

(4) Environmental contamination

8. National codex contact point (NCCP) for India is at :

(1) Ministry of Health and Family Welfare

(2) Ministry of Commerce

(3) FDA

(4) Food safety and standards authority of India, Delhi

9. Correlate the vitamins in **Column-I** with their role in promoting reaction/process in **Column-II** :

Column-I	**Column-II**
P. Riboflavin	1. Visual cycle
Q. Vitamin D	2. Acyl group transfer
R. Pantothenic acid	3. Regulation of Ca^{+} metabolism
S. Vitamin A	4. Oxidation-reduction reaction

(1) P-1, Q-2, R-4, S-3

(2) P-2, Q-1, R-3, S-4

(3) P-3, Q-4, R-1, S-2

(4) P-4, Q-3, R-2, S-1

10. During high pressure processing :

(1) Physical compression results in a volume reduction and an increase in temperature and energy

(2) Physical compression results in a volume reduction and a decrease in temperature and energy

(3) Physical compression results in a volume reduction without changing temperature and energy

(4) Physical compression doesn't have an effect on volume and energy

11. If the microbial population of a specific microbe is doubled, the D value at a particular temperature will be :

(1) Reduced to half

(2) Doubled

(3) Increased 10 times

(4) Remains unchanged

12. Intermediate moisture foods have a water activity of :

(1) 0.9-1.0 (2) 0.6-0.8

(3) 0.7-0.8 (4) 0.4-0.5

13. The principal compound responsible for the earthy aroma of green pea is due to :

(1) 2-Methoxy 3-Isopropyl pyrazine

(2) Butyl pyrazine

(3) 2-Methyl 3-butyl pyrazine

(4) 2-Methoxy 3- isobutyl pyrazine

14. Curdy meltdown in ice cream is due to :

(1) incorporation of too much air in the ice cream during freezing

(2) high acidity in the ice cream mix and instability of milk proteins

(3) use of excessive stabilizer (over stabilization) or faulty processing of the mix

(4) This defect may occur due to poor quality of ice cream mix or improper balancing of mix

15. The optimum activity of Bromelain for meat tenderization occurs over pH :

(1) 3-4.5 (2) 5-8

(3) 9-11 (4) 7-12

16. Electric resistance heating is the term used for :

(1) Infrared heating (2) Ohmic heating

(3) Dielectric heating (4) Induction heating

17. Osmotic membrane distillation process requires :

(1) High pressure
(2) Hydrophilic membrane
(3) Ambient temperature
(4) All of the above

18. Which of the following methods refers to deactivation of microbes in food using electricity ?

(1) Power Ultrasound
(2) Pulsed Electric field
(3) Hurdle technology
(4) All of the mentioned

19. Principally, hurdle technology disrupts which of the following phenomena in microbes :

(1) Homeostasis
(2) Respiration
(3) Photosynthesis
(4) Osmosis

20. Low glycaemic index is associated with :

(1) White rice
(2) Polished rice
(3) Brown rice
(4) All of the above

21. Rice bran oil is rich in :

(1) DHA
(2) Butyric acid
(3) Alpha linolenic acid
(4) Gamma oryzanol

22. Certain bacteria are added to minced meat by dehydration. What is this activity called ?

(1) Coating
(2) Freezing
(3) Fermentation
(4) Curing

23. Serum protein consists of :

(1) Casein
(2) γ casein
(3) α lactalbumin
(4) β lactglobulin

24. According to the FSSAI, minimum amount of milk fat in double toned milk should be :

(1) 2.5% (2) 3.5% (3) 0.5% (4) 1.5%

25. Which of the following is not the soft cheese ?

(1) Cottage
(2) Neufchatel
(3) Roquefort
(4) Cheddar

26. As per the FSSAI, protein content of an ice cream should not be less than ..... %.

(1) 1.5 (2) 2.5 (3) 3.5 (4) 4.5

27. Trimethylamine oxide present in marine fish helps in :

(1) Avoiding rigor mortis
(2) Floating
(3) Osmoregulation
(4) None of the above

28. The eggs are pasteurized to kill particularly all the :

(1) Streptococcus organisms
(2) Salmonella organism
(3) Staphylococcus organism
(4) Micrococcus organisms

29. Purplish red colour of meat is due to :

(1) Myglobin (Fe^{2+})
(2) Nitric oxide myglobin (Fe^{2+})
(3) Metmyoglobin (Fe^{3+})
(4) Oxymyglobin (Fe^{2+})

30. Which of the following is/are the reasons for the syneresis in jellies ?

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

31. Carbon dioxide in carbonated beverages acts as :

(1) Preservative and Sparking agent
(2) Enhancement of flavour
(3) Both of the above
(4) None of the above

32. Which of the following potato would you prefer for chips making ?

(1) Stored at below 10°C
(2) Stored at above 10°C
(3) Any potato
(4) Potato rich in glucose

33. Which of the following decrease/s in fruit as the ripening increase ?

(1) Acidity
(2) Pectin
(3) Sugar
(4) All of the above

34. In controlled atmosphere storage system, the :

(1) O_2 concentration is kept high
(2) O_2 concentration is kept low
(3) CO_2 concentration is kept low
(4) CO_2 and O_2 concentration are same as that of atmosphere

35. As per the FSSAI, minimum (%) of fruit juice in final product of fruit crush :

(1) 15%
(2) 25%
(3) 30%
(4) 35%

36. Semi viscous product obtained by the solvent extraction of essential oils is :

(1) Oleoresin
(2) Isolate
(3) Concrete
(4) Absolute

37. Monoterpenes have :

(1) 5 carbon atoms
(2) 10 carbon atoms
(3) 15 carbon atoms
(4) 20 carbon atoms

38. Which of the following is storage protein present in Barley ?

(1) Zein
(2) Viscin
(3) Hordein
(4) Albumin

39. Which of the following is an allogamous cereal ?

(1) Rice
(2) Wheat
(3) Maize
(4) Ragi

40. Which protein fraction constitutes gluten ?

(1) Prolamin and Proteose
(2) Gliadin and Zein
(3) Gliadin and Glutenin
(4) Prolamin and Gliadin

41. Sorting of fruits and vegetables is carried out on the basis of individual :

(1) Physical characteristics

(2) Chemical characteristics

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42. In ultrasound cleaning, principle used is :

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(1) Barley beer (2) Ginger beer

(3) Wheat beer (4) Rice beer

50. Rum is manufactured from :

(1) Grapes (2) Sugarcane

(3) Rice (4) Carrot juice

51. Ropiness of bread is caused by :

(1) *Rhizopus stolonifer*

(2) *Bacillus subtilis*

(3) *Aspergilus niger*

(4) *Monillasitophila*

52. Penicillium digitatumis responsible for ..... of fruits and vegetables.

(1) Blue mold rot

(2) Gray mold rot

(3) Black mold rot

(4) Pink mold rot

53. Surface slime in meat can be caused by :

(1) Moraxella

(2) Acinetobacter

(3) Micrococus

(4) All of the above

54. Viscoamylographis used to measure :

(1) Viscosity of a suspension

(2) Resistance to extension of dough

(3) The power needed to mix dough

(4) All of these

55. Chorleywood bread making process involves :

(1) Activated dough development

(2) Formation of sponge

(3) Long fermentation step

(4) Mechanical development of dough

56. A food with a water activity of 0.67 will produce a relative humidity of :

(1) 76 (2) 67 (3) 98 (4) 75

57. Reassociation of amylose and formation of crystalline structure upon cooling of cooked starch solution is termed as :

(1) Syneresis (2) Gelatinization

(3) Retrogradation (4) Denaturation

58. The brown colour of bread crust during baking is due to Maillard reaction between :

(1) Aldehyde groups of sugars and amino groups of proteins

(2) Aldehyde groups of sugars and vitamins

(3) Aldehyde groups of sugars and salt

(4) Starch and yeast

59. Which of the following is true ?

(1) Limonin gives bitterness and limonene gives flavor

(2) Limonene gives bitterness and limonin gives flavor

(3) Both give flavor

(4) Both give bitterness

60. Which of the following gives a characteristic "fruity" odour ?

(1) Esters
(2) Alcohols
(3) Aldehydes
(4) Lactones

61. Arrange the acidities of following sugars in descending order: fructose, sucrose, and glucose :

(1) Fructose, glucose. sucrose
(2) Sucrose, fructose, glucose
(3) Glucose, sucrose, fructose
(4) Fructose, sucrose, glucose

62. During ripening of cheese by *Penicillium roqueforti* the characteristic aroma is due to :

(1) Methyl ketones
(2) Aceto acetic acid
(3) Diacetyl
(4) Acetoin

63. Which of the following food additive acts as cold sterilizing agent for aqueous solution and an irritant for concentrated solutions ?

(1) Chlorotetracycline
(2) Propylene oxide
(3) Diethyl pyrocarbonate
(4) Benzoic acid

64. According to diet efficiency fat is metabolized efficiently with only ..... wastage.

(1) 6% (2) 4% (3) 10% (4) 2%

65. The resulting potential difference between the surface of particle and solution is known as :

(1) Electric potential (2) Zeta potential

(3) Gravitational potential (4) Kinetic potential

66. An emulsion is transparent when the droplet diameter is :

(1) 0.05 μm (2) 0.10 μm

(3) 0.15 μm (4) 0.20 μm

67. Di electric loss factor (ε'') is related to :

(1) Ability of food to dissipate electrical energy

(2) Quantitative characterization of interaction between microwave energy and food

(3) Depth at which microwave power level is reduced

(4) Flow of electric current through food product

68. Line spread apparatus :

(1) Determine consistency of batter

(2) Measures consistency and stability of dough

(3) Indicates nature of dispersion of incorporated air

(4) Both (1) and (3)

69. The causative organism for spoilage of smoked fish :

(1) Fungi (2) Yeast (3) Mold (4) Bacteria

70. The number of glucose units in cyclodextrin ranges from :

(1) 6-8 (2) 2-4 (3) 0-2 (4) 8-10

71. Sequence of oil refining is :

(1) Degumming, Neutralizing, bleaching, deodorizing

(2) Neutralizing, bleaching, degumming, deodorizing

(3) Bleaching, deodorizing, neutralizing, degumming

(4) Deodorizing, bleaching, Neutralizing, degumming

72. The technique including solubilization of essential oil component on greasy wax :

(1) Hydrodistillation (2) Distillation

(3) Enfleurage (4) None of the above

73. Orellanus syndrome is caused by :

(1) *Pleurotus* species (2) *Amanita* species

(3) *Cortinarius* species (4) *Paxillus* species

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(2) Potassium dichromate

(3) Potassium iodate

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76. Protein isolate from legumes is isolated by :

(1) Alkali milling (2) Dry milling

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77. The percentage of husk in paddy is :

(1) 5% (2) 20% (3) 45% (4) 68%

78. Pusa RH-10 is improved variety of :

(1) Potato (2) Rice

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79. The shortening used in cake undergoes beating process in order to :

(1) Entrap air into it (2) Decrease in volume

(3) Change its color (4) Release air from it

80. Pectic acid is mostly :

(1) Galactic acid (2) Galacturonic acid

(3) Carboxylic acid (4) Hydroxy acid

81. Burning feet syndrome is caused due to deficiency of :

(1) Vitamin B 5

(2) Vitamin B 10

(3) Vitamin B 12

(4) Vitamin B 7

82. Maximum density of water is at :

(1) 0°C

(2) 4°C

(3) 5°C

(4) 100°C

83. The color of anthocyanin changes through orange and red to blue or purple :

(1) By increase in pH

(2) By decrease in pH

(3) No change in pH

(4) At equilibrium pH

84. Which among the following flavonoid complexes with iron to cause dark discoloration of canned food ?

(1) Luteolin

(2) Tricetin

(3) Rutin

(4) Quercetin

85. The least predominant organic acid present in the extract of green coffee beans :

(1) Chlorogenic acid

(2) Acetic acid

(3) Formic acid

(4) Citric acid

86. ..... tea is an intermediate between black and green tea in color and taste characteristics.

(1) Yellow

(2) White

(3) Oolong

(4) Winter

87. Which among the following enhances the flavor of beverage and gives it its sparkle ?

(1) Coloring material

(2) Carbon dioxide

(3) Flavoring materials

(4) Acids and preservatives

88. Carbohydrates constitute ..... of dry matter of cereals.

(1) 75% (2) 60% (3) 80% (4) 70%

89. Compressed yeast has moisture content of :

(1) 72% (2) 70% (3) 75% (4) 50%

90. The fermenting agent of *miso* is :

(1) *Aspergillus oryzae*

(2) *Rhizopusoryzae*

(3) *Bacillus subtitis*

(4) *Lactobacillus mesenteroids*

91. The percentage of gamma casein in milk is approximately :

(1) 55% (2) 25% (3) 15% (4) 5%

92. Table cream contains ..... of fat.

(1) 18% (2) 30-36% (3) 40% (4) 85%

93. The biological value of egg is :

(1) 93.7% (2) 95.5% (3) 99.5% (4) 100%

94. The most common method employed for drying eggs is :

(1) Spray drying

(2) Freeze drying

(3) Solar drying

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95. The H- band of muscle consists of only :

(1) Thick filaments

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97. Which of the following amino acid is absent in collagen ?

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99. Polyphosphates and EDTA are used as ..... in canned sea foods.

(1) Chelating agent

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100. Lecithin is more effective emulsifying agent in combination with :

(1) Monoglyceryl stearate

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(1) During growth phase of freezing, a large number of small ice nuclei are formed

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Group-I	**Group-II**
P. Lag Phase	1. Number of viable cells decreases
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33. The Codex Alimentarius Commission was established in :

(1) 1969 (2) 1959 (3) 1972 (4) 1962

34. Red spot defect on the surface of meat is caused by :

(1) *Pseudomonas syncyanea*

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(1) Migration from packaging made from plastics & epoxy resins
(2) Frying of food at high temperature
(3) Use of amorphous pesticides
(4) Environmental contamination

38. National codex contact point (NCCP) for India is at :

(1) Ministry of Health and Family Welfare
(2) Ministry of Commerce
(3) FDA
(4) Food safety and standards authority of India, Delhi

39. Correlate the vitamins in **Column-I** with their role in promoting reaction/process in **Column-II** :

Column-I	**Column-II**
P. Riboflavin	1. Visual cycle
Q. Vitamin D	2. Acyl group transfer
R. Pantothenic acid	3. Regulation of Ca^{+} metabolism
S. Vitamin A	4. Oxidation-reduction reaction

(1) P-1, Q-2, R-4, S-3
(2) P-2, Q-1, R-3, S-4
(3) P-3, Q-4, R-1, S-2
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40. During high pressure processing :

(1) Physical compression results in a volume reduction and an increase in temperature and energy

(2) Physical compression results in a volume reduction and a decrease in temperature and energy

(3) Physical compression results in a volume reduction without changing temperature and energy

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41. Ropiness of bread is caused by :

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(1) Limonin gives bitterness and limonene gives flavor

(2) Limonene gives bitterness and limonin gives flavor

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50. Which of the following gives a characteristic "fruity" odour ?

(1) Esters (2) Alcohols

(3) Aldehydes (4) Lactones

51. Arrange the acidities of following sugars in descending order: fructose, sucrose, and glucose :

(1) Fructose, glucose. sucrose

(2) Sucrose, fructose, glucose

(3) Glucose, sucrose, fructose

(4) Fructose, sucrose, glucose

52. During ripening of cheese by *Penicillium roqueforti* the characteristic aroma is due to :

(1) Methyl ketones

(2) Aceto acetic acid

(3) Diacetyl

(4) Acetoin

53. Which of the following food additive acts as cold sterilizing agent for aqueous solution and an irritant for concentrated solutions ?

(1) Chlorotetracycline

(2) Propylene oxide

(3) Diethyl pyrocarbonate

(4) Benzoic acid

54. According to diet efficiency fat is metabolized efficiently with only ..... wastage.

(1) 6% (2) 4% (3) 10% (4) 2%

55. The resulting potential difference between the surface of particle and solution is known as :

(1) Electric potential

(2) Zeta potential

(3) Gravitational potential

(4) Kinetic potential

56. An emulsion is transparent when the droplet diameter is :

(1) 0.05 µm (2) 0.10 µm

(3) 0.15 µm (4) 0.20 µm

57. Di electric loss factor (ε'') is related to :

(1) Ability of food to dissipate electrical energy

(2) Quantitative characterization of interaction between microwave energy and food

(3) Depth at which microwave power level is reduced

(4) Flow of electric current through food product

58. Line spread apparatus :

(1) Determine consistency of batter

(2) Measures consistency and stability of dough

(3) Indicates nature of dispersion of incorporated air

(4) Both (1) and (3)

59. The causative organism for spoilage of smoked fish :

(1) Fungi (2) Yeast (3) Mold (4) Bacteria

60. The number of glucose units in cyclodextrin ranges from :

(1) 6-8 (2) 2-4 (3) 0-2 (4) 8-10

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(1) 2.5%
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(1) Cottage
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(2) Carbon dioxide
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Total No. of Printed Pages : 21

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C

PHD/URS-EE-DEC-2022

SET-Y

SUBJECT : 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 _____

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_____ _____

(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.
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(2) Potassium dichromate

(3) Potassium iodate

(4) Potassium bromate

35. Chalkiness in rice occurs when rice is harvested at :

(1) Very high moisture level

(2) Very low moisture level

(3) Slight low moisture level

(4) Intermediate moisture level

36. Protein isolate from legumes is isolated by :

(1) Alkali milling (2) Dry milling

(3) Wet milling (4) Acid milling

37. The percentage of husk in paddy is :

(1) 5% (2) 20% (3) 45% (4) 68%

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(1) Migration from packaging made from plastics & epoxy resins

(2) Frying of food at high temperature

(3) Use of amorphous pesticides

(4) Environmental contamination

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(1) Ministry of Health and Family Welfare

(2) Ministry of Commerce

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Column-I	**Column-II**
P. Riboflavin	1. Visual cycle
Q. Vitamin D	2. Acyl group transfer
R. Pantothenic acid	3. Regulation of Ca^{+} metabolism
S. Vitamin A	4. Oxidation-reduction reaction

(1) P-1, Q-2, R-4, S-3

(2) P-2, Q-1, R-3, S-4

(3) P-3, Q-4, R-1, S-2

(4) P-4, Q-3, R-2, S-1

70. During high pressure processing :

(1) Physical compression results in a volume reduction and an increase in temperature and energy

(2) Physical compression results in a volume reduction and a decrease in temperature and energy

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(1) Physical characteristics

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(1) Electric waves

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(1) 0.12 minutes

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(2) Ochratoxin

(3) Penicillin

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(1) 18% (2) 30-36% (3) 40% (4) 85%

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(1) 93.7% (2) 95.5% (3) 99.5% (4) 100%

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(1) Fructose, glucose. sucrose
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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/URS-EE-DEC-2022

SUBJECT : Food Technology

10008

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.*

SEAL

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(2) Ascorbic acid

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(4) None of the above

11. Carbon dioxide in carbonated beverages acts as :

(1) Preservative and Sparking agent

(2) Enhancement of flavour

(3) Both of the above

(4) None of the above

12. Which of the following potato would you prefer for chips making ?

(1) Stored at below 10°C

(2) Stored at above 10°C

(3) Any potato

(4) Potato rich in glucose

13. Which of the following decrease/s in fruit as the ripening increase ?

(1) Acidity

(2) Pectin

(3) Sugar

(4) All of the above

14. In controlled atmosphere storage system, the :

(1) O_2 concentration is kept high

(2) O_2 concentration is kept low

(3) CO_2 concentration is kept low

(4) CO_2 and O_2 concentration are same as that of atmosphere

15. As per the FSSAI, minimum (%) of fruit juice in final product of fruit crush :

(1) 15%

(2) 25%

(3) 30%

(4) 35%

16. Semi viscous product obtained by the solvent extraction of essential oils is :

(1) Oleoresin
(2) Isolate
(3) Concrete
(4) Absolute

17. Monoterpenes have :

(1) 5 carbon atoms
(2) 10 carbon atoms
(3) 15 carbon atoms
(4) 20 carbon atoms

18. Which of the following is storage protein present in Barley ?

(1) Zein
(2) Viscin
(3) Hordein
(4) Albumin

19. Which of the following is an allogamous cereal ?

(1) Rice
(2) Wheat
(3) Maize
(4) Ragi

20. Which protein fraction constitutes gluten ?

(1) Prolamin and Proteose
(2) Gliadin and Zein
(3) Gliadin and Glutenin
(4) Prolamin and Gliadin

21. Sequence of oil refining is :

(1) Degumming, Neutralizing, bleaching, deodorizing
(2) Neutralizing, bleaching, degumming, deodorizing
(3) Bleaching, deodorizing, neutralizing, degumming
(4) Deodorizing, bleaching, Neutralizing, degumming

22. The technique including solubilization of essential oil component on greasy wax :

(1) Hydrodistillation
(2) Distillation
(3) Enfleurage
(4) None of the above

23. Orellanus syndrome is caused by :

(1) *Pleurotus* species
(2) *Amanita* species
(3) *Cortinarius* species
(4) *Paxillus* species

24. For improving dough properties, extensively used oxidizing agent is :

(1) Potassium permagnate
(2) Potassium dichromate
(3) Potassium iodate
(4) Potassium bromate

25. Chalkiness in rice occurs when rice is harvested at :

(1) Very high moisture level
(2) Very low moisture level
(3) Slight low moisture level
(4) Intermediate moisture level

26. Protein isolate from legumes is isolated by :

(1) Alkali milling
(2) Dry milling
(3) Wet milling
(4) Acid milling

27. The percentage of husk in paddy is :

(1) 5% (2) 20% (3) 45% (4) 68%

28. Pusa RH-10 is improved variety of :

(1) Potato (2) Rice (3) Pearl millet (4) Maize

29. The shortening used in cake undergoes beating process in order to :

(1) Entrap air into it (2) Decrease in volume

(3) Change its color (4) Release air from it

30. Pectic acid is mostly :

(1) Galactic acid (2) Galacturonic acid

(3) Carboxylic acid (4) Hydroxy acid

31. Rice bran oil is rich in :

(1) DHA (2) Butyric acid

(3) Alpha linolenic acid (4) Gamma oryzanol

32. Certain bacteria are added to minced meat by dehydration. What is this activity called ?

(1) Coating (2) Freezing

(3) Fermentation (4) Curing

33. Serum protein consists of :

(1) Casein (2) γ casein

(3) α lactalbumin (4) β lactglobulin

34. According to the FSSAI, minimum amount of milk fat in double toned milk should be :

(1) 2.5% (2) 3.5% (3) 0.5% (4) 1.5%

35. Which of the following is not the soft cheese ?

(1) Cottage (2) Neufchatel

(3) Roquefort (4) Cheddar

36. As per the FSSAI, protein content of an ice cream should not be less than ..... %.

(1) 1.5 (2) 2.5 (3) 3.5 (4) 4.5

37. Trimethylamine oxide present in marine fish helps in :

(1) Avoiding rigor mortis (2) Floating

(3) Osmoregulation (4) None of the above

38. The eggs are pasteurized to kill particularly all the :

(1) Streptococcus organisms (2) Salmonella organism

(3) Staphylococcus organism (4) Micrococcus organisms

39. Purplish red colour of meat is due to :

(1) Myglobin (Fe^{2+}) (2) Nitric oxide myglobin (Fe^{2+})

(3) Metmyoglobin (Fe^{3+}) (4) Oxymyglobin (Fe^{2+})

40. Which of the following is/are the reasons for the syneresis in jellies ?

(1) Excess of acid (2) Low pectin content

(3) Low sugar (4) All of the above

41. Arrange the acidities of following sugars in descending order: fructose, sucrose, and glucose :

(1) Fructose, glucose. sucrose

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51. Burning feet syndrome is caused due to deficiency of :

(1) Vitamin B 5 (2) Vitamin B 10

(3) Vitamin B 12 (4) Vitamin B 7

52. Maximum density of water is at :

(1) 0°C (2) 4°C

(3) 5°C (4) 100°C

53. The color of anthocyanin changes through orange and red to blue or purple :

(1) By increase in pH (2) By decrease in pH

(3) No change in pH (4) At equilibrium pH

54. Which among the following flavonoid complexes with iron to cause dark discoloration of canned food ?

(1) Luteolin (2) Tricetin

(3) Rutin (4) Quercetin

55. The least predominant organic acid present in the extract of green coffee beans :

(1) Chlorogenic acid (2) Acetic acid

(3) Formic acid (4) Citric acid

56. ..... tea is an intermediate between black and green tea in color and taste characteristics.

(1) Yellow (2) White

(3) Oolong (4) Winter

57. Which among the following enhances the flavor of beverage and gives it its sparkle ?

(1) Coloring material

(2) Carbon dioxide

(3) Flavoring materials

(4) Acids and preservatives

58. Carbohydrates constitute ..... of dry matter of cereals.

(1) 75% (2) 60% (3) 80% (4) 70%

59. Compressed yeast has moisture content of :

(1) 72% (2) 70% (3) 75% (4) 50%

60. The fermenting agent of *miso* is :

(1) *Aspergillus oryzae* (2) *Rhizopusoryzae*

(3) *Bacillus subtitis* (4) *Lactobacillus mesenteroids*

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71. Ropiness of bread is caused by :

(1) *Rhizopus stolonifer*
(2) *Bacillus subtilis*
(3) *Aspergilus niger*
(4) *Monillasitophila*

72. Penicillium digitatumis responsible for ..... of fruits and vegetables.

(1) Blue mold rot

(2) Gray mold rot

(3) Black mold rot

(4) Pink mold rot

73. Surface slime in meat can be caused by :

(1) Moraxella

(2) Acinetobacter

(3) Micrococus

(4) All of the above

74. Viscoamylographis used to measure :

(1) Viscosity of a suspension

(2) Resistance to extension of dough

(3) The power needed to mix dough

(4) All of these

75. Chorleywood bread making process involves :

(1) Activated dough development

(2) Formation of sponge

(3) Long fermentation step

(4) Mechanical development of dough

76. A food with a water activity of 0.67 will produce a relative humidity of :

(1) 76 (2) 67 (3) 98 (4) 75

77. Reassociation of amylose and formation of crystalline structure upon cooling of cooked starch solution is termed as :

(1) Syneresis
(2) Gelatinization
(3) Retrogradation
(4) Denaturation

78. The brown colour of bread crust during baking is due to Maillard reaction between :

(1) Aldehyde groups of sugars and amino groups of proteins
(2) Aldehyde groups of sugars and vitamins
(3) Aldehyde groups of sugars and salt
(4) Starch and yeast

79. Which of the following is true ?

(1) Limonin gives bitterness and limonene gives flavor
(2) Limonene gives bitterness and limonin gives flavor
(3) Both give flavor
(4) Both give bitterness

80. Which of the following gives a characteristic "fruity" odour ?

(1) Esters
(2) Alcohols
(3) Aldehydes
(4) Lactones

81. Mark the correct statement :

(1) During growth phase of freezing, a large number of small ice nuclei are formed

(2) During fast freezing, less number small ice crystals are formed

(3) During slow freezing, large number of small ice crystals are formed

(4) During fast freezing, large number of small ice crystals are formed

82. Match various phases of a typical bacterial growth cycle in **Group-I** with most appropriate bacterial activity in **Group-II** :

Group-I	**Group-II**
P. Lag Phase	1. Number of viable cells decreases
Q. Exponential Phase	2. Growth ceases and population remains constant
R. Stationary Phase	3. Preparatory phase for cell division
S. Decline Phase	4. Cells divide steadily at constant rate

(1) P-2, Q-3, R-1, S-4 (2) P-3, Q-4, R-2, S-1

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83. The Codex Alimentarius Commission was established in :

(1) 1969 (2) 1959 (3) 1972 (4) 1962

84. Red spot defect on the surface of meat is caused by :

(1) *Pseudomonas syncyanea*

(2) *Serratia marcescens*

(3) *Flavobacterium*

(4) *Chromobacterium*

85. Which of the following microbial products are known to control food spoilage ?

(1) Bacteriocins

(2) Perforins

(3) Antibiotics

(4) T4 lysozyme

86. Which of the following operation reduces the dietary fibre content in cereals ?

(1) Drying

(2) Retrogradation

(3) Grinding

(4) Milling

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(2) Physical compression results in a volume reduction and a decrease in temperature and energy

(3) Physical compression results in a volume reduction without changing temperature and energy

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91. If the microbial population of a specific microbe is doubled, the D value at a particular temperature will be :

(1) Reduced to half

(2) Doubled

(3) Increased 10 times

(4) Remains unchanged

92. Intermediate moisture foods have a water activity of :

(1) 0.9-1.0

(2) 0.6-0.8

(3) 0.7-0.8

(4) 0.4-0.5

93. The principal compound responsible for the earthy aroma of green pea is due to :

(1) 2-Methoxy 3-Isopropyl pyrazine

(2) Butyl pyrazine

(3) 2-Methyl 3-butyl pyrazine

(4) 2-Methoxy 3- isobutyl pyrazine

94. Curdy meltdown in ice cream is due to :

(1) incorporation of too much air in the ice cream during freezing

(2) high acidity in the ice cream mix and instability of milk proteins

(3) use of excessive stabilizer (over stabilization) or faulty processing of the mix

(4) This defect may occur due to poor quality of ice cream mix or improper balancing of mix

95. The optimum activity of Bromelain for meat tenderization occurs over pH :

(1) 3-4.5

(2) 5-8

(3) 9-11

(4) 7-12

96. Electric resistance heating is the term used for :

(1) Infrared heating

(2) Ohmic heating

(3) Dielectric heating

(4) Induction heating

97. Osmotic membrane distillation process requires :

(1) High pressure

(2) Hydrophilic membrane

(3) Ambient temperature

(4) All of the above

98. Which of the following methods refers to deactivation of microbes in food using electricity ?

(1) Power Ultrasound

(2) Pulsed Electric field

(3) Hurdle technology

(4) All of the mentioned

99. Principally, hurdle technology disrupts which of the following phenomena in microbes :

(1) Homeostasis

(2) Respiration

(3) Photosynthesis

(4) Osmosis

100. Low glycaemic index is associated with :

(1) White rice

(2) Polished rice

(3) Brown rice

(4) All of the above

ANSWER KEYS OF FOOD TECH. FOR SESSION 2022-23				
Q. NO.	A	B	C	D
1	4	1	4	4
2	2	2	3	1
3	4	2	3	1
4	1	3	4	1
5	1	1	4	1
6	4	1	3	2
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14	2	4	1	2
15	2	1	4	2
16	2	3	2	1
17	3	2	3	2
18	2	2	1	3
19	1	2	1	3
20	3	2	1	3
21	4	4	1	1
22	3	1	2	3
23	3	1	1	3
24	4	1	3	4
25	4	1	2	1
26	3	2	3	3
27	3	4	2	2
28	2	2	3	2
29	1	1	1	2
30	4	3	1	2
31	3	4	1	4
32	2	2	3	3
33	1	4	3	3
34	2	1	4	4
35	2	1	1	4
36	1	4	3	3
37	2	1	2	3
38	3	4	2	2
39	3	4	2	1
40	3	1	2	4
41	1	2	4	1
42	2	1	2	1
43	2	4	1	3
44	3	1	2	2
45	1	4	2	2
46	1	2	2	1
47	1	3	3	1
48	2	1	2	4
49	4	1	1	3
50	1	1	3	1

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ANSWER KEYS OF FOOD TECH. FOR SESSION 2022-23				
Q. NO.	A	B	C	D
51	2	1	3	1
52	1	1	2	2
53	4	3	1	1
54	1	2	2	3
55	4	2	2	2
56	2	1	1	3
57	3	1	2	2
58	1	4	3	3
59	1	3	3	1
60	1	1	3	1
61	1	4	4	1
62	1	3	2	2
63	3	3	4	2
64	2	4	1	3
65	2	4	1	1
66	1	3	4	1
67	1	3	1	1
68	4	2	4	2
69	3	1	4	4
70	1	4	1	1
71	1	4	1	2
72	3	2	2	1
73	3	1	2	4
74	4	2	3	1
75	1	2	1	4
76	3	2	1	2
77	2	3	1	3
78	2	2	2	1
79	2	1	4	1
80	2	3	1	1
81	1	1	4	4
82	2	2	1	2
83	1	1	1	4
84	3	3	1	1
85	2	2	1	1
86	3	3	2	4
87	2	2	4	1
88	3	3	2	4
89	1	1	1	4
90	1	1	3	1
91	4	3	1	4
92	1	2	1	2
93	1	1	3	1
94	1	2	2	2
95	1	2	2	2
96	2	1	1	2
97	4	2	1	3
98	2	3	4	2
99	1	3	3	1
100	3	3	1	3

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