

Test Booklet No. _____

This booklet consists of 150 questions and 22 printed pages.

RGUPET/2024/___/___

**RGUPET 2024
Common Entrance Test, 2024**

DOCTOR OF PHILOSOPHY IN FOOD TECHNOLOGY

**Full Marks: 150
Hours**

Time: 3

Roll No.

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Day and Date of Examination: _____

Signature of Invigilator(s) _____

Signature of Candidate _____

General Instructions:

PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 150 Multiple Choice Questions (MCQs) from the concerned subject. Each question carries 1 mark.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall after the commencement of the entrance test or leave the examination hall within two hour.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidates are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

1	Which ministry was responsible for creating the 'One Stop Centre Scheme'?				Answer option
	a) Ministry of Rural Development	b) Ministry of Finance	c) Ministry of Women and Child Development	d) Ministry of Agriculture	c
2	Which Tennis player won the Wimbledon men's single title in 2023?				Answer option
	a) Rafael Nadal	b) Novak Djokovic	c) Stefanos Tsitsipas	d) Carlos Alcaraz	d
3	What is the name of the new forum created by OpenAI, Microsoft, Google, and Anthropic?				Answer option
	a) Learning Model Forum	b) Frontier Model Forum	c) Public Model Forum	d) Knowledge Model Forum	b
4	Which of the following State or Union territory is known for the famous folk dance called 'Dogri folk dance', recently highlighted in the news?				Answer option
	a) Jammu	b) Assam	c) Arunachal Pradesh	d) Lakshadweep	b
5	Which organization released the draft of a global climate agreement, that proposed three alternatives to tackle fossil fuels?				Answer option
	a) UN	b) IMF	c) WEF	d) IUCN	a
6	<p>Statement 1: Mrs. Sarojini Naidu was the first Indian woman to be the president of the Indian National Congress</p> <p>Statement 2: Mrs. Sarojini Naidu was the Second woman governor of a state in free India.</p>				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	a
7	Which researchers' team has successfully developed a model of an implantable bioartificial pancreas grown within a 3D silk scaffold?				Answer option
	a) IIT Bombay	b) IIT Delhi	c) IIT Kanpur	d) IIT Guwahati	d
8	<p>Statement 1: RIWATCH stands for 'Research Institute of World Ancient Traditions Cultures and Heritage'</p> <p>Statement 1: RIWATCH museum is situated at Khinjili, Roing, Arunachal Pradesh</p>				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b

9	_____ discovered the double helix structure of DNA?				Answer option (a, b, c or d)										
	a) Louis Pasteur	b) James Watson and Francis Crick	c) Robert Hooke	d) All of the Above	b										
10	Match List I with List II				Answer option (a, b, c or d)										
	<table border="1"> <thead> <tr> <th>List I</th> <th>List II</th> </tr> </thead> <tbody> <tr> <td>A. Nyctalopia</td> <td>1. Niacin</td> </tr> <tr> <td>B. Macrocytic anaemia</td> <td>2. Vitamin B12</td> </tr> <tr> <td>C. Osteomalacia</td> <td>3. Vitamin D</td> </tr> <tr> <td>D. Pellegra</td> <td>4. Vitamin A</td> </tr> </tbody> </table>		List I	List II	A. Nyctalopia	1. Niacin	B. Macrocytic anaemia	2. Vitamin B12	C. Osteomalacia	3. Vitamin D	D. Pellegra	4. Vitamin A			
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	a) A-2, B-1, C-4, D-3	b) A-3, B-4, C-1, D-2	c) A-4, B-1, C-3, D-2	d) A-4, B-2, C-3, D-1	d										
11	Choose the correct answer to complete the sentence: Did you meet each other at the university? He asked them...				Answer option (a,b,c or d)										
	a)if did they meet at the university	b)if they'd met at the university	c)had they met at the university	d)have that meet at the university	b										
12	Fill in the blanks with appropriate non-finite verbs She called him because she wanted _____ his whereabouts														
	a) to know	b) know	c) knowing	d) both a & c	a										
13	Which of the following is not a synonym for "Cargo"														
	a) Transport	b) Consignment	c) Payload	d) Merchandise	a										
14	Given below are four jumbled sentences. Pick the option that gives the correct order A. Some of the Vitamin A rich sources of foods are carrots, spinach and meat B. A research study has found that the Vitamin A intake reduce skin cancer risks. C. It suggested that we should consume a diet with fruits and vegetables. D. This study has been published in Food Science and Nutrition.														
	a) ABDC	b) BADC	c) CABD	d) BDCA	d										
15	Identify the sentence type: Whenever we get tea, he shows up late, and its' really starting to bother me.														
	a)Compound-complex sentence	b)Complex sentence	c)Simple sentence	d)Compound sentence	a										
16	Base 10 refers to which number system														
	a) Hexadecimal	b) Octal	c) Decimal	d) Binary coded systems	c										
17	The coordinates of origin are														

	a) (0,0) & (0,0,0)	b) (1,1) & (1,1,1)	c) (0,0,0) & (1,1,1)	d) Both a & c	a										
18	The ratio of A: B: C is 1:4:5. How much C will make with ₹ 500?														
	a) 200	b)100	c) 250	d)50	c										
19	Choose from the following, the answer that is closest in meaning to the underlined word. Because of injury, you might feel pain in your <u>arm or leg</u>														
	a) Body parts	b)Pins	c) Jots	d) limbs	d										
20	Close ended questions are those that														
	a) have a fixed range of possible answers	b) prevents respondents from allocating themselves to a category	c) encourage detailed, elaborate responses.	d) make the respondent provide a guarded answer	a										
21	What was the title of the collaborative training exercise conducted recently by the Indian Army and Indian Air Force?				Answer option										
	a) Nabh Shakti	b)Strike Shakti	c) Shravan Shanti	d) Brahmastra Shakti	a										
22	Snowball sampling is a technique for selecting a sample using				Answer option										
	a) networks	b) snowballs	c) groups	d) computer programs	a										
23	Match the following:				Answer option										
	<table border="1"> <thead> <tr> <th>List I (Scales of measurement)</th> <th>List II (Description of properties)</th> </tr> </thead> <tbody> <tr> <td>A. Nominal</td> <td>i. Classification, order and equal units</td> </tr> <tr> <td>B. Ordinal</td> <td>ii. Exists of true zero point</td> </tr> <tr> <td>C. Interval</td> <td>iii. simplest form of scale</td> </tr> <tr> <td>D. Ratio</td> <td>iv. classification and order</td> </tr> </tbody> </table>		List I (Scales of measurement)	List II (Description of properties)		A. Nominal	i. Classification, order and equal units	B. Ordinal	ii. Exists of true zero point	C. Interval	iii. simplest form of scale	D. Ratio	iv. classification and order		
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24	The specification of methods and procedures for acquiring the necessary information to structure or solve the problems is known as				Answer option										
	a) Research hypothesis	b) Research problems	c) Research design	d) Research data	c										
25	What will be the value of median, If the mode and mean values of some data are 13 and 4, respectively?				Answer option										
	a) 5	b) 6	c) 7	d) 8	c										

26	The sum of absolute deviations is minimized when calculated from the				Answer option
	a) mean	b) median	c) mode	d) upper quartile	b
27	What will be the value of coefficient of variance if the mean of distribution and the standard deviation are 26 and 8, respectively?				Answer option
	a) 31.23%	b) 31.54%	c) 30.12%	d) 30.76%	d
28	Which two of the following statement are true? A. The shape of the normal distribution curve is triangular. B. The normal distribution is also known as a Gaussian distribution. C. Skewness is linked to the tails of a normal distribution, whereas kurtosis pertains to its peak or height. D. Quartiles divide the entire data set into three equal parts.				Answer option
	a) B & C	b) B & D	c) A & C	d) A & D	a
29	The most suitable and dependable scales for measuring a single attitude are:				Answer option
	a) Arbitrary scales	b) Thurstone scales	c) Likert-type scales	d) Differential scales	d
30	Which of the following statements are false? A. When sample size increases, the standard error declines. B. The validity and reliability of data should be checked occasionally. C. Random sampling is helpful as it is an economical method of data collection. D. The researcher should never report flaws in procedural design and estimate their effect on findings.				Answer option
	a) A & C	b) A & D	c) B & C	d) B & D	d
31	What properties characterize the standard normal distribution?				Answer option
	a) mean = standard deviation	b) standard deviation = variance = 0	c) mean = 0, and variance = 1	d) mean = 0 and variance = 0	c
32	Identify those two which are called non-probability sampling procedures: i. Purposive sampling ii. Quota sampling iii. Cluster sampling iv. Systematic sampling				Answer option
	a) i & iii	b) i & ii	c) iii & iv	d) ii & iv	b
33	Choose the correct option for the following statements Statement 1: Representing another person's work, their words and/or ideas as your own is termed as plagiarism. Statement 2: Not acknowledging the sources your ideas build upon is plagiarism				Answer option (a, b, c or d)

	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b									
34	Which of the following is not a type of research report				Answer option (a, b, c or d)									
	a) Thesis/ dissertation	b) Research paper	c) Text book of a subject	d) Conference Seminar Research paper	c									
35	Research journals with high _____ are commonly considered to be more important than those with lower ones.				Answer option (a, b, c or d)									
	a) Eigen factor	b) Impact factor	c) H-index	d) i10 score	b									
36	Who is responsible for assessing ISBN in India?				Answer option (a, b, c or d)									
	a) National Library, Kolkata	b) Imperial Library, Kolkata	c) Raja Ram Mohan Roy Foundation, Kolkata	d) National Book Trust, New Delhi	c									
37	ISSN stands for _____.				Answer option (a, b, c or d)									
	a) International Standard Social Number	b) International Source Serial Number	c) International Standard Serial Number	d) Indian Standard society Number	c									
38	Match List I with List II				Answer option (a, b, c or d)									
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	a) A-4, B-3, C-2, D-1	b) A-3, B-4, C-1, D-2	c) A-4, B-1, C-3, D-2	d) A-4, B-2, C-3, D-1	a
39	The study in which the investigators attempt to trace an effect is known as:				Answer option (a, b, c or d)
	a) Survey Research	b) Summative Research	c) Historical Research	d) 'Ex-post Facto' Research	d
40	We use Factorial Analysis:				Answer option (a, b, c or d)
	a) To know the relationship between two variables	b) To test the Hypothesis	c) To know the difference between two variables	d) To know the difference among the many variables	d
41	Trait of a characteristic that can assume more than one value.				Answer option (a, b, c or d)
	a) Discrete Data	b) Ungrounded data	c) Population	d) Variable	d
42	Generalized conclusion on the basis of a sample is technically known as:				Answer option (a, b, c or d)
	a) Data analysis and interpretation	b) Parameter inference	c) Statistical inference	d) All of the above	a
43	Two types of reference noting systems used in Citation styles are_____.				Answer option (a, b, c or d)
	a) Footnote and Endnote	b) Under note and back note	c) Indent note and last note	d) Reference note and bibliographical note	a
44	What is the main objective of research?				
	a) To review the literature	b) To summarize what is known already.	c) To obtain an academic degree	d) To uncover new facts to make fresh interpretation of known facts	d

45	<p>Given below are two statements, one is Assertion A and the other is Reason R</p> <p>A: One of the important aims of research is the development of a theory</p> <p>B: Both facts and theory are important for doing research</p> <p>In light of the above statements, choose the most appropriate answer from the following</p>				
	a) Both A and R are correct and R is the correct explanation of A	b) Both A and R are correct but R is not the correct explanation of A	c) A is correct but R is not correct.	d) A is not correct but R is correct	b
46	Match the following				
	A Applied Research		i Gathering knowledge skill		
	B Fundamental Research		ii Finding solution of an immediate problem		
	C Longitudinal Research		iii Research carried on several time periods		
	D Qualitative research		iv Research based on data		
	a) A-ii, B-i, C-iii, D-iv	b) A-iv, B-i, C-iii, D-ii	c) A-i, B-ii, C-iv, D-iii	d) A-i, B-ii, C-iii, D-iv	a
47	In research, reliability is that quality of a measurement procedure which provides				
	a) Repeatability and accuracy	b) Punctuality and accuracy	c) Accuracy and speed	d) Speed and repeatability	a
48	What practical steps can one take before actually starting a research?				
	a) Find out exactly what one's institution's requirements are for a dissertation	b) Make sure one is familiar with the hardware and software one plans to use.	c) Apply for clearance of one's project though an ethics committee.	d) All of the above	d
49	Which of the following is not a measure of central tendency				
	a) Median	b) Mean	c) Mode	d) Variance	d
50	The conceptual framework in which research is conducted is called a				
	a) Research synopsis	b) Research design	c) Hypothesis of research	d) Research paradigm	b
51	The following statement "the work required to reduce the size of particle is proportional to the logarithm of the ratio between initial and final diameters" is known as				Answer option
	a) Bond's law	b) Rittinger's law	c) Kick's law	d) Stokes' law	c
52	Dimension of Reynolds number is				Answer option
	a) ML^2T^{-1}	b) $ML^{-1}T^{-1}$	c) MLT^{-1}	d) Dimensionless	d
53	Which of the following is the most suitable for transportation of sticky material?				Answer option
	a) Pneumatic conveyor	b) Belt conveyor	c) Screw conveyor	d) Apron conveyor	c

54	Match List-I with List-II.				Answer option
	List-I		List-II		
	A.	Nusselt number	i.ratio of momentum diffusivity to thermal diffusivity		
	B.	Grashof number	i.ratio of convective and diffusive mass transfer		
	C.	Sherwood number	i.ratio of convective to conductive heat transfer		
D.	Prandtl number	i.ratio of buoyancy to viscous force in a fluid			
	a) A-iii, B-iv, C-ii, D-i	b) A-ii, B-iv, C-iii, D-i	c) A-ii, B-i, C-iv, D-iii	d) A-iii, B-i, C-iv, D-ii	a
55	Which model is utilized to explain the theory in accelerated shelf-life studies conducted at high temperatures?				Answer option
	a) Kirchoff's model	b) Fick's model	c) Arrhenius model	d) Newton model	d
56	A fluid that exhibit reversible time dependency is referred to as				Answer option
	a) Thixotropic fluid	b) Dilatant fluid	c) Pseudoplastic fluid	d) Newtonian fluid	a
57	Which of the statement is true about the break-even point?				Answer option
	<p>A. It occurs when the annual rate of the production equals the assigned value.</p> <p>B. It occurs when the total annual product cost equals to the total annual sales.</p> <p>C. It occurs when the annual sales equal the fixed cost.</p> <p>D. It occurs when the annual profit equals the expected value.</p>				
	a) Both A & B	b) Both C & D	c) Only B	d) Only D	c
58	Grading of fruits and vegetables is defined as				Answer option
	a) assessment of overall quality based on single attribute	b) assessment of overall quality based on various attributes	c) assessment of specific quality based on single attribute	d) assessment of specific quality based on various attributes	b
59	Which of the following is not the driving force for material transport through the membrane?				Answer option
	a) Concentration difference	b) Pressure difference	c) Flow rate difference	d) Electric potential difference	c

60	Match List-I with List-II.				Answer option
	List-I		List-II		
	A. Hammer mill	i. Compression and shear force			
	B. Pin mill	ii. Impact and shear force			
	C. Attrition mill	iii. Impact force			
D. Roller mill	iv. Pressure and frictional force				
	a) A-iii, B-ii, C-iv, D-i	b) A-iii, B-i, C-ii, D-iv	c) A-ii, B-i, C-iv, D-iii	d) A-ii, B-iii, C-iv, D-i	a
61	Determine the amount of single strength juice containing 15% solids that is mixed with juice concentrate containing 65% solids to produce 100 kg of a concentrate containing 45% solids.				Answer option
	a) 40 kg	b) 50 kg	c) 60 kg	d) 70 kg	a
62	In Tetra Pak, the thinnest layer is, while the thickest layer is				Answer option
	a) nylon and polyethylene	b) polyethylene and aluminium	c) aluminium foil and paper	d) polyethylene and paper	c
63	Which of the following statement is/are true? A. Argon is an inert gas used in MAP. B. Oxygen is the most soluble gas used in MAP. C. The term “blow moulding” is used during the production of plastic bottles. D. CO ₂ absorbers packaging is appropriate for fruits.				Answer option
	a) A & D	b) C & D	c) only B	d) A & C	d
64	The process of filling sterile containers with commercially sterile product is referred to as ...				Answer option
	a) active packaging	b) passive packaging	c) aseptic packaging	d) intelligent packaging	c
65	Given below are two statements; one labelled as Assertion (A) and other labelled as Justification (B): Assertion (A): Silver nanoparticles is used in active packaging. Justification(B): Silver (Ag) exhibits a significant potential for antimicrobial effects. Choose the correct answer from the options given below:				Answer option
	a) Both A & B false	b) A is true but B is false	c) Both A & B are true and B is the correct explanation of A	d) Both A & B are true and B is not the correct explanation of A	c
66	Which of the following methods of new product development (NPD) is commonly practiced in several food industries?				Answer option

	a) Parent-Child method	b) Lock-Key method	c) Stage-Gate method	d) Hide-Seek method	c
67	Food items that are not standardized under the PFA act but are granted patents are known as				Answer option
	a) Convenient food	b) Proprietary food	c) Speciality food	d) Genetically modified food	b
68	A non-digestible food ingredient that promotes the growth of beneficial bacteria in the colon is known as...				Answer option
	a) Probiotic	b) Prebiotic	c) Symbiotic	d) Healthy biotic	b
69	The course of sales and profits of a product throughout its entire lifespan is referred to as				Answer option
	a) Marketing management	b) Customer lifetime value	c) Product lifetime value	d) Product life cycle	d
70	The process of developing a new-product comprises several distinct steps, totalling in number.				Answer option
	a) four steps	b) six steps	c) eight steps	d) ten steps	c
71	<p>Given below are two statements; one labelled as Assertion (A) and other labelled as Justification (B):</p> <p>Assertion (A): person with BMI between 18 to 25 kg/m² are classified as obese.</p> <p>Justification (B): Obesity can result from decreased physical activity and excessive consumption of junk food.</p> <p>Choose the correct answer from the options given below:</p>				Answer option
	a) Both A & B are false	b) Both A & B are true	c) A is false but B is true	d) Both A & B are true but B is the incorrect explanation	c
72	Which of the following solution is used to perform Lye peeling?				Answer option
	a) Acid solution	b) alkali solution	c) brine solution	d) neither a nor b	b
73	The 2 nd and 5 th HACCP steps are &, respectively.				Answer option
	a) Determine Critical Control Points & Establish corrective actions	b) Set critical limits & Establish monitoring system	c) Set critical limits & Establish corrective actions	d) Conduct hazard analysis & Determine Critical Control Points	a

74	What technique does HACCP utilize to identify the Critical Control Points (CCPs)?				Answer option										
	a) Checklist	b) 5-Why analysis	c) Elimination techniques	d) Decision tree	d										
75	Which of the following statement is/are true? A. FSSAI has established "Food Safety and standards Act 2006". B. Scientific committees and Panels are responsible for maintaining the standards set by FSSAI. C. FSSAI is a single reference point for all matters relating to FSS. D. FSSAI established under the Ministry of Food Processing Industries.				Answer option										
	a) A & B	b) B & C	c) C & D	d) A & D	b										
76 is a standard which specifies requirement for prerequisite programmes to assist in controlling food safety risks within the manufacturing processes of International food supply chains.				Answer option										
	a) ISO 14000	b) CODEX	c) FSMS	d) PAS 220	d										
77	Which organization offers guidance and assistance regarding levels of radionuclide contamination in foods and the process of food irradiation?				Answer option										
	a) FAO	b) OIE	c) ISO	d) IAEA	d										
78	Functional foods, proprietary foods, organic foods, and Genetically Modified Foods, etc. fall under which section of the Food Safety and Standard Act 2006?				Answer option										
	a) Section 20	b) Section 21	c) Section 22	d) Section 23	c										
79	Match List-I with List-II.				Answer option										
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80	Which of the following test is used to detect the adulteration of Vanaspati in Ghee?				Answer option										
	a) Baudouin test	b) Peroxide test	c) Holde's test	d) Hehner test	a										
81	In canning, the objective of exhausting is_____.				Answer option (a, b, c or d)										
	a) To expel the trapped air.	b) To discourage the growth of bacterial spores.	c) None of above	d) Both a and b	d										

82	In canning of vegetables, brine concentration is tested with_____.				Answer option (a, b, c or d)
	a) Balling hydrometer	b) Refractometer	c) Salometer	d) Baume hydrometer	c
83	_____ treatment is also termed as Flash Pasteurization.				Answer option (a, b, c or d)
	a) LTLT	b) HTST	c) UHT	d) Pasteurization	c
84	Pasteurization is the heat treatment designed primarily to kill_____.				Answer option (a, b, c or d)
	a) Vegetative forms of microorganisms	b) All form of microorganisms	c) Spore	d) None of above	a
85	Choose the correct option for the following statements Statement 1: In the process of hydrogenation of edible oils, nickel is added as a catalyst. Statement 2: Nickel is injurious for consumption.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b
86	Sulphiting agents like SO ₂ and salts releasing this gas are mainly employed to control_____.				Answer option (a, b, c or d)
	a) Enzymatic and non-enzymatic browning	b) Growth of micro-organisms	c) Both a and b	d) None of above	c
87	In lye peeling, _____% hot NaOH solution is used for 30s to few minutes or longer depending upon the raw material.				Answer option (a, b, c or d)
	a) 1-2%	b) >10%	c) 6-8%	d) 3-5%	a
88	Choose the correct option for the following statements Statement 1: Adulteration takes place more in loosely sold items than those sold packed. Statement 2: Powder and paste forms are more adulterated than solid lumps.				Answer option (a, b, c or d)

	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b
89	Pickle is the example of _____.				Answer option (a, b, c or d)
	a) Acetic acid fermentation	b) Lactic acid fermentation	c) Alcoholic fermentation	d) None of above	b
90	Choose the correct option for the following statements Statement 1: Food irradiation uses ionizing radiation, like x-rays, gamma rays, or electron beams to kill microorganisms. Statement 2: Food Irradiation is a cold sterilization technique.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are False	c) Both statements 1 and 2 are True	d) Statement 1 False, and statement 2 True	c
91	Commercial radiations used for food preservation are produced from _____.				Answer option (a, b, c or d)
	a) Radium	b) Cobalt	c) Uranium	d) Plutonium	b
92	<i>Acetobacter aceti</i> converts _____ into acetic acids.				Answer option (a, b, c or d)
	a) Starch	b) Methyl alcohol	c) Glucose	d) Ethyl alcohol	d
93	_____ is the quickest freezing method.				Answer option (a, b, c or d)
	a) Cryogenic freezing	b) Slush freezing	c) Blast freezing	d) Immersion freezing	a
94	Choose the correct option for the following statements Statement 1: Controlled Atmospheric storage is a method of storing fruits and vegetables in airtight containers with controlled levels of oxygen and carbon dioxide. Statement 2: Controlled Atmospheric storage speed up the ripening process.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	a

95	_____ is the example of biological preservative.				Answer option (a, b, c or d)
	a) Niacin	b) Nisin	c) Sodium benzoate	d) Ascorbic acid	b
96	_____ is the food preservation method in which nutritional quality is less harmed.				Answer option (a, b, c or d)
	a) Canning	b) Dehydration	c) Freezing	d) Sun drying	c
97	Choose the correct option for the following statements Statement 1: D-value is the time required to reduce a microbial population by 90% Statement 2: D-values are important in food processing for calculating F-values.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b
98	The target microorganism in canning is _____.				Answer option (a, b, c or d)
	a) <i>Clostridium botulinum</i>	b) <i>Streptococcus thermophilus</i>	c) <i>Lactobacillus bulgaricus</i>	d) <i>Lactobacillus acidophilus</i>	a
99	Spoilage in food because of microbial activity can be prevented/delayed by:				Answer option (a, b, c or d)
	a) Physical removal of micro-organisms	b) Prohibiting the entry of micro-organisms in food	c) Hindering the activity of micro-organisms	d) All of above	d
100	The father of canning is _____.				Answer option (a, b, c or d)
	a) Louis Pasteur	b) Newton	c) Nicolas Appert	d) None of above	c
101	_____ radiations have much greater penetration power than other radiation.				Answer option (a, b, c or d)

	a) X-rays	b) Gamma	c) Beta	d) Alpha	b
10 2	By law, synthetic vinegar must contain at least _____% acetic acid.				Answer option (a, b, c or d)
	a) 2	b) 3	c) 4	d) greater than 10	c
10 3	Choose the correct option for the following statements Statement 1: Rancidity is mainly concerned with fats. Statement 2: Rancidity is caused due to oxidation of free fatty acids present in oils.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	a) Statement 1 False, and statement 2 True	b) Both statements 1 and 2 are False	b
10 4	_____ is natural anti-oxidant commonly used to prevent oxidation in fats and oils.				Answer option (a, b, c or d)
	a) α -tocopherol	b) BHT	c) Propyl gallate	d) BHA	a
10 5	The boiling point of liquid Nitrogen is _____.				Answer option (a, b, c or d)
	a) 79 °C	b) 68 °C	c) 46 °C	d) -196 °C	d
10 6	Combination of which of the following is known as gluten?				Answer option (a, b, c or d)
	a) Glutenin + Glutenin	b) Gliadin + Glutenin	c) Lysine + Glutenin	d) Gliadin + Lysine	b
10 7	<i>Triticum durum</i> is known as _____.				Answer option (a, b, c or d)
	a) Bread wheat	b) Macaroni wheat	c) Club Wheat	d) None of these	b
10 8	Match List I with List II				Answer option (a, b, c or d)
	List I		List II		
	A. Brown rice	1. Rice heated in sand			
	B. Saki	2. Rancidity			
	C. Parched rice	3. Rice with bran			

	D. Rice bran oil	4. Japanese drink prepared from rice			
	a) A-2, B-1,C-4, D-3	b) A-3, B-4,C-1, D-2	c) A-4, B-2,C-3, D-1	d) A-3, B-4,C-2, D-1	b
109	What is pitting in pulse milling process?				Answer option (a, b, c or d)
	a) Impart scratches and cracks on hard seed coat of pulses.	b) Removing pits	c) Removal of fine particles by chelating agents	d) Removal of large particles by air bubbles	a
110	Which of the following component is reduced when pulses are soaked?				Answer option (a, b, c or d)
	a) Nitrous oxide	b) Potassium oxide	c) Nitric acid	d)) Phytic acid	d
111	Which of the following is NOT a step in Modern Milling of Wheat?				Answer option (a, b, c or d)
	a) Stone Grinding	b) Wheat milling	c) Wheat Conditioning	d) Cleaning	a
112	Are these statements about the rice milling true? Statement 1: Sifting is a process to remove impurities from milled rice. Statement 2: Pre-cleaning is removing of impurities from paddy.				Answer option (a, b, c or d)
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	b
113	Which of the following is not the rice milling equipment?				Answer option (a, b, c or d)
	a) Huller mills	b) Disc separator	c) Sheller-Huller mills	d) Sheller-Cone Polisher mills	b
114	Which of the following is untrue about Solvent extraction of Oil?				Answer option (a, b, c or d)
	a) The most common solvent	b) This is suitable for	c) This process is	d) None of the mentioned	d

	used is Hexane	materials containing low percentage of oil	difficult/complex for small scale operators												
115	<p>Are these statements about the oil refining true?</p> <p>Statement 1: Degumming removes colouring agents from vegetable oil.</p> <p>Statement 2: Neutralization removes free fatty acids from crude oils using caustic soda or lime.</p>				Answer option (a, b, c or d)										
	a) Statement 1 True, and statement 2 False	b) Both statements 1 and 2 are True	c) Both statements 1 and 2 are False	d) Statement 1 False, and statement 2 True	d										
116	<p>State true or false:</p> <p>A Gerber method is used for protein determination</p> <p>B Lactometer reading is used measuring density</p> <p>C Milk is less nutritious than whole body carcass</p> <p>D Phosphatase test is used for determining adequate pasteurization</p>				Answer option (a,b,c or d)										
	a) False, True, True, True	b) False, False, True, True	c) False, False, False, True	d) True, True, True, True	a										
117	<p>Match the pairs correctly</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">A Full cream milk</td> <td style="width: 50%;">I Fat 6%</td> </tr> <tr> <td>B Standardized milk</td> <td>II Fat 4.5%</td> </tr> <tr> <td>C Skim milk</td> <td>III Fat <0.5%</td> </tr> <tr> <td>D Toned Milk</td> <td>IV Fat 3%</td> </tr> </table>				A Full cream milk	I Fat 6%	B Standardized milk	II Fat 4.5%	C Skim milk	III Fat <0.5%	D Toned Milk	IV Fat 3%			
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	a) A-I, B-II, C-III, D-IV	b) A-II, B-I, C-III, D-IV	c) A-IV, B-I, C-III, D-I	d) A-IV, B-II, C-III, D-I	a										
118	<p>The target organism for batch pasteurization of milk is</p>														
	a) <i>Mycobacterium tuberculosis</i>	b) <i>Salmonella thyphimurium</i>	c) <i>Escherichia coli</i>	d) <i>Bacillus stearothermophilus</i>	a										
119	<p>Matching the following pairs:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">MBRT-time (hr)</th> <th style="width: 50%;">Milk Quality</th> </tr> </thead> <tbody> <tr> <td>A 5 and above</td> <td>I Poor</td> </tr> <tr> <td>B 3 and 4</td> <td>II Good</td> </tr> <tr> <td>C 1 and 2</td> <td>III Fair</td> </tr> <tr> <td>D 0.5 and below</td> <td>IV Very good</td> </tr> </tbody> </table>				MBRT-time (hr)	Milk Quality	A 5 and above	I Poor	B 3 and 4	II Good	C 1 and 2	III Fair	D 0.5 and below	IV Very good	
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120	<p>The radius of fat globules in bovine milk range from</p>														
	a) ~0.1 to ~20 μm	b) ~1 to ~2 μm	c) ~0.05 to ~10 μm	d) ~3 to ~20 μm	c										
121	<p>Adequacy of pasteurization is indicated by a</p>														
	a) Negative lactase test	b) Negative catalase test	c) Negative phosphatase test	d) Negative diastase test	c										

12 2	Major microbes responsible for yogurt are				
	a) <i>Lactobacillus bulgaricus</i> & <i>Proionibacterium</i>	b) <i>Lactobacillus Lactis</i> & <i>Streptococcus sterothermophilus</i>	c) <i>Leuconostoc & Proionibacterium</i>	d) <i>Lactobacillus bulgaricus</i> & <i>Streptococcus thermophilus</i>	d
12 3	Opacity in milk is due to				
	a) Minerals	b) Whey	c) Suspended fat particles	d) Lactose	c
12 4	State true or false: A MBRT and Resazurin test are used in judging milk's microbial quality B Methylene blue is colorless while leucomethylene blue is colored C In Resazurin test the time frame for color change is fixed. D A blue Resazurin test color represents excellent milk's microbial quality				
	a) True, False, True, True	b) True, True, True, True	c) True, False, False, False	d) True, True, False, False	a
12 5	Sodium nitrite application in meat processing is responsible for				
	a) Lowering temperature to kill <i>Clostridium botulinum</i>	b) Fixing of meat color	c) Development of characteristic flavor, texture of bacon, ham and sausage products	d) All of them	d
12 6	Fishes can be categorized into				
	a) Low acid food	b) High acid food	c) Medium Acid food	d) Acid food	a
12 7	Blanching medium for fish/shrimps is				
	a) Brine	b) Oil	c) Water	d) Acidified water	a
12 8	Which of the following enzymes is used in preventing browning of egg powder?				
	a) Lactase	b) Papain	c) Glucose oxidase	d) Peroxidase	c
12 9	State true or false: A Key flavor component of clove is crocin. B Pepper flavor is due to piperine C Key constituent of saffron is eugenol D Chilli pungency is due to capsaicinoids				
	a) False, False, False, True	b) True, True, False, True	c) False, True, False, True	d) False, True, False, False	c
13 0	State true or false: A <i>Lactobacillus</i> bacteria is found in processed/cured meat B <i>Moraxella</i> bacteria can be found in refrigerated meat. C Recommended antibiotics in meat preservation are Nisin and chloramphenicol D Greening of sausages is caused by <i>Lactobacillus</i> and <i>Leuconostoc</i>				

	a) False, False, False, False	b) True, True, True, True	c) True, False, False, True	d) False, True, False, False	b
13 1	With ageing the air pocket in the egg shell becomes				
	a) Smaller	b) Larger	c) Air pocket is not present in egg	d) Does not change in size	b
13 2	Which of the following cause stiffness in body of poultry birds				
	a) Algor mortis	b) Liver mortis	c) Rigor mortis	d) Algor mortis, Liver mortis and Rigor mortis	c
13 3	In which of the following fermenters the impellers can be replaced by a constant gas flow?				
	a) Tower fermenter	b) Hollow fibre	c) Airlift fermenter	d) Perfusion fermenter	c
13 4	Which of the following fermentation occur in absence of free liquid?				
	a) Batch fermentation	b) Continuous fermentation	c) Solid state fermentation	d) Submerged fermentation	c
13 5	The preservation of microbial cultures by using liquid nitrogen is called				
	a) Lyophilization	b) Freeze-drying	c) Desiccation	d) Cryopreservation	d
13 6	Which of the following statement is NOT true for a continuous culture fermentation?				
	a) An extended exponential growth phase	b) Efficient and faster nutrients utilization	c) Maintenance of microbial growth rate	d) Lower risk of contamination than batch fermentation	d
13 7	Vinegar production involves				
	a) Yeasts and butyric acid bacteria	b) Yeasts and Lactic acid Bacteria	c) Lactic acid bacteria and Acetic acid bacteria	d) Yeast and acetic acid bacteria	d
13 8	Botulinum toxin is _____				
	a) Endotoxin	b) Cytotoxin	c) Neurotoxin	d) Mycotoxin	c
13 9	Which of the following compounds give a very strong flavor				
	a) Organosulphur compounds	b) Chlorophyll	c) Xanthophyll	d) Isoflavones	a
14 0	Which of the following are responsible for <i>umami</i> flavor?				
	a) Monosodium glutamate	b) 5'-nucleotides	c) Tricholomic and ibotenic acid	d) All of them	d
14 1	Match the following pairs:				
	A HPLC		I Separation based on relative volatility		

	B GC	II Separation based on polarity			
	C FTIR	III Backscattered electrons			
	D SEM	IV Molecular Vibration			
	a) A-II, B-I, C-IV, D-III	b) A-I, B-II, C-IV, D-III	c) A-II, B-I, C-III, D-IV	d) A-III, B-I, C-III D-IV	a
14 2	State true or false: A In ATR-FTIR the crystal used in made up of silicone B Phosphorescence occurs for longer time than fluorescence C SEM produces a 3D image while TEM produces a 2 D image D Photomultiplier tube is used to reduce signal.				
	a) True, False, True, False	b) False, False, False, True	c) True, True, True, False	d) False, True, True, False	d
14 3	Thermo-stable amylases are obtained from				
	a) <i>Bacillus stearothermophilus</i>	b) <i>Saccharomyces cerevisiae</i>	c) <i>Aspergillus niger</i>	d) <i>Saccharomyces kluyveri</i>	a
14 4	State True or False: A Wine and beer are products of bacterial fermentation B Tea is a product of fungal fermentation C Bread is a product of fungal fermentation D Acetic acid production from alcohol is a product of bacterial fermentation				
	a) False, False, True, True	b) False, True, False, True	c) True, True, False, False	d) True, False, True, True	a
14 5	State True or False: A Smoking meat causes flavor changes, textural changes and shelf-life enhancement. B Bacon is from pork bellies C Brisket is the most expensive part of meat cuts D Actin is the most abundant protein in meat myofibril				
	a) True, True, False, False	b) False, True, False, False	c) True, True, False, True	d) True, False, True, True	a
14 6	If a culture starts with 50 cells, how many cells will be present after four generation considering no cell death?				
	a) 200	b) 600	c) 800	d) 6.25×10^6	c
14 7	Match the pairs:				
	A Koumiss	i Acidity 0.7-1.8%, 1-2.5% Alcohol, CO ₂ 0.03-0.07%			
	B Kefir	ii Acidity 0.7-1%, 0.5% Alcohol, CO ₂ 0.05-0.09%			
	C Acidophilus milk	iii Acidity 1-1.5%			
	D Sweet Dahi	iv Acidity 0.7%			
	a) A-i, B-ii, C-iii, D-iv	b) A-ii, B-i, C-iii, D-iv	c) A-ii, B-i, C-iv, D-iii	d) A-iii, B-i, C-iv, D-ii	a
14 8	Select the correct matching pairs:				
	A Blue cheese	i <i>Propionibacterium ferundenreichii</i>			
	B Gouda cheese	ii <i>Penicillium camemberti</i>			
	C Camembert	iii <i>Leuconostoc mesentrodies</i>			
	D Swiss cheese	iv <i>Penicillium roqueforti</i>			

	a) A-iv, B-ii, C-ii, D- i	b) A-ii, B-iii, C-ii, D- iv	c) A-i, B-iv, C-ii, D- iii	d) A-iv, B-iii, C-ii, D- i	d
14 9	Match the following heat treatments for milk:				
	A UHT	i 63°C, 30 min			
	B Batch	ii 135-150 °C, 2-6 s			
	C HTST	iii 72°C, 15 s			
	D Sterilization	iv 105 °C-110°C, 30-45 min			
	a) A-iii, B-i, C-ii, D-iv	b) A-ii, B-i, C-iii, D-iv	c) A-iv, B-i, C-iii, D-ii	d) A-ii, B-iv, C-iii, D-i	b
15 0	Choose the correct option: A (Assertion): Fermentation is the process of decomposition of sugars to acid or alcohol by microbes B (Reason): Cheese production involves bacterial fermentation of milk				
	a) Both Assertion and Reason are correct	b) Both Assertion and Reason are correct, but reason is not the correct explanation of assertion	c)Assertion is correct but reason is incorrect	d) Assertion is incorrect but reason is correct	b