





## **Food Safety**

Time Allowed: Three Hours Maximum Marks: 300

### INSTRUCTIONS

#### DO NOT OPEN THIS QUESTION BOOKLET SEAL UNTIL YOU ARE TOLD TO DO SO

- 1. The OMR Sheet is separately supplied to you. Fill in all the entries in the OMR Sheet correctly, failing which your OMR Sheet shall not be evaluated.
- 2. This Question Booklet contains **200** questions. Each question comprises four responses (answers). You have to select ONLY ONE response which you consider the best and mark it on the OMR Sheet.
- 3. You must check the Question Booklet and ensure that it contains all the questions and see that no page is missing or repeated. Discrepancies, if any in the Question Booklet or in the OMR Sheet, you must be reported to the invigilator immediately and Question Booklet/OMR Sheet shall be replaced.
- 4. Encode clearly the Question Booklet Series A, B, C or D as the case may be in the appropriate place in the OMR Sheet.
- 5. All questions carry equal marks. Attempt ALL questions. Your total marks will depend only on the number of correct responses marked by you in the OMR Sheet.
- 6. Rough work must not be done on the OMR Sheet. Use the blank space at the last page of the Question Booklet for rough work.
- 7. Once you have completed filling in all your responses on the OMR Sheet and the examination has concluded, you should hand over the OMR Sheet to the Invigilator. In no case you should leave the Examination Hall without returning the OMR Sheet. Candidates are allowed to take away their Question Booklets. The duplicate OMR Sheet may also be taken away by the candidates.
- 8. There is no penalty for wrong answers.

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- Mold inhibitor used in bread is: 1.
  - a. Sodium/Calcium propionate
  - b. Sodium chloride
  - c. Calcium carbonate
  - d. None of these
- 2. Who developed the process of canning:
  - a. Nicolas Appert
- b. Louis Pasteur
- c. Norman Borlaug d. Walter Hesse
- 3. Nisin is used as:
  - a. Antimicrobial agent
  - b. Emulsifier
  - c. Stabilizer
  - d. Sweetner
- Iodized salt contains iodine in the form of:
  - a. I<sub>2</sub>
- b. KIO<sub>3</sub>
- c. KI
- d. NaI
- 5. The first synthetic sweetening agent used was:
  - a. Saccharine
- b. Cyclamates
- c. Aspartame
- d. Sucralose
- 6. Jam, jellies and preserves can be preserved by adding sugar at concentration of:
  - a. 65%
- b. 70%
- c. 40%
- d. 30%

- After drying moisture content in vegetables should be:
  - a. 6-8%
- b. 8-10%
- c. 10-15%
- d. 15-20%
- 8. Agar-agar is used as:
  - a. Stabilizer and thickener
  - b. Antibiotic
  - c. Colouring agent
  - d. Nutrient supplement
- Frozen storage is generally operated at temperature of:
  - a. -0°C
- b. -18°C
- c. -50°C
- d. -60°C
- Tocopherol is an example of: 10.
  - a. Anticaking agent b. Antioxidant
  - c. Flavouring agent d. None of these
- 11. Bitterness in colocasia is due to:
  - a. Calcium oxalate
  - b. Calcium chloride
  - c. Potassium oxalate
  - d. Calcium carbonate
- 12. In high temperature short time method of pasteurization, milk is heated at temperature:
  - a. 72°C for 15 seconds
  - b. 62°C for 15 seconds
  - c. 72°C for 30 minutes
  - d. 62°C for 30 minutes





- 13. Butylated Hydroxyanisole (BHA) is:
  - a. Chelating agent b. Antioxidant
  - c. Stablizer
- d. Emulsion
- 14. Strong BIS Headquarters is situated in:
  - a. Pune
- b. Chennai
- c. New Delhi
- d. Ajmer
- 15. Germination affects nutritive value of legumes by:
  - a. Increase in vitamin C content
  - b. Decrease in trypsin inhibitor activity
  - c. Increase in enzyme activity
  - d. All of these
- 16. Pineapple variety suitable for canning is:
  - a. Queen
- b. Kew
- c. Mauritius
- d. Cayenne
- 17. Richest source of Riboflavin is:
  - a. Papaya
- b. Mango
- c. Bael
- d. Karonda
- 18. Which of the following is non-Climacteric type of fruit?
  - a. Pineapple
- b. Litchi
- c. Grape
- d. All of these
- 19. Emission of Ethylene during transportation of cut flowers causes a disorder called:
  - a. Bud opening
- b. Sleepiness
- c. Bent neck
- d. Calyx splitting

- 20. Which is the precursor of Ethylene?
  - a. Tryptophane
- b. Methionine
- c. ABA
- d. IAA
- 21. Cauliflower curds can be stored for a month at:
  - a. O°C with 85-90% RH
  - b. 15°C with 60-80% RH
  - c. 15°C with 60-65% RH
  - d. 20°C with 50-70% RH
- 22. For curing, sweet potato are kept for 10 days at:
  - a. 25 °C and 85% RH
  - b. 40°C and 70% RH
  - c. 80°C and 30% RH
  - d. 30 °C and 80% RH
- 23. Tomato fruits for canning are harvested at:
  - a. Mature green stage
  - b. Red ripe stage
  - c. Immature green stage
  - d. Half-ripe/pink stage
- 24. Which chemical is used for controlling sprouting of onions in storage?
  - a. Maleic Hydrazide (MH)
  - b. Ethylene (C2H4)
  - c. GA
  - d. All of these





25.	For	Low	Sugar	content,	potato	tubers
	are s	store	d at:			

- a. 5°C
- b. 10°C
- c. 15°C
- d. 20°C
- 26. For longer storage of cucumber fruits, the temperature should be:
  - a. 5°C
- b. 10°C
- c. 20°C
- d. 25°C
- 27. The Limiting Amino acid in green vegetables is:
  - a. Arginine
- b. Lysine
- c. Methionine
- d. Tryptophan
- 28. Which is the staple vegetable in Indian diet?
  - a. Tomato
- b. Cauliflower
- c. Potato
- d. Chilli
- 29. Which bean is used for extraction of gum?
  - a. Broad bean
- b. Cluster bean
- c. French bean
- d. Hyacinth bean
- 30. Chillies are rich source of:
  - a. Vitamin A
- b. Vitamin C
- c. Vitamin A and C d. Vitamin E
- 31. Vegetables are subjected to drying after:
  - a. Sulfuring
- b. Sulphitation
- c. Blanching
- d. None of these

- 32. Yellow coloured vegetables are rich source of:
  - a. Vitamin A
- b. Vitamin B
- c. Vitamin C
- d. Vitamin D
- 33. Toddy from coconut is prepared by:
  - a. Deep Frying
- b. Fermentation
- c. Hydrogenation d. Oxidation
- 34. According to FPO, the maximum limit of SO<sub>2</sub> allowed in squashes and cordials is:
  - a. 350 ppm
- b. 500 ppm
- c. 1000 ppm
- d. 600 ppm
- The toxicity of SO, increases at:
  - a. Low temperature
  - b. High temperature
  - c. Moderate temperature
  - d. No effect of temperature
- 36. Concentration of SO<sub>2</sub> in concentrated juice is:
  - a. 500 ppm
- b. 1000 ppm
- c. 1500 ppm
- d. 350 ppm
- 37. Enzyme responsible for converting pectin into pectic acid is:
  - a. Pectinase
  - b. Proto-peclinase
  - c. Pectic Methyl Esterase (PME)
  - d. Poly Galucturonase





- 38. The term 'Climacteric' was first used by:
  - a. Gane (1934)
  - b. Kidd and West (1927)
  - c. Cruess (1912)
  - d. Bleekar (1929)
- 39. O2 requirement for Apple storage in Controlled Atmosphere (CA) is:
  - a. 2%
- b. 3%
- c. 5%
- d. 7%
- 40. Storage temperature for Asparagus is:
  - a.  $0-5^{\circ}C$
- b. 5 7°C
- c. 7-11°C
- d. 10-15°C
- 41. Vegetable which is not blanched before drying:
  - a. Cauliflower
- b. Palak
- c. Onion
- d. Tomato
- 42. Moisture content in dried vegetable is:
  - a. 2%
- b. 3%
- c. 5%
- d. 6%
- 43. Vitamin which is not found in Fruits and Vegetables:
  - a. Vitamin A
- b. Vitamin B<sub>1</sub>
- c. Vitamin B<sub>6</sub>
- d. Vitamin B<sub>12</sub>
- 44. Best maturity index of orange is:
  - a. TSS
- b. Sugar%
- c. Acid%
- d. Brix: acid ratio

- 45. Bacteria which is used to absorb ethylene from storage chamber is:
  - a. Agrobacterium
  - b. Mycobacterium
  - c. Bacillus
  - d. Azotobacter
- 46. Toughening effect on canned bean is due to:
  - a. K
- b. Ca
- c. S
- d. None of these
- Agricultural Produce (Grading and Marketing) Act (1937) is also:
  - a. PFA Act
- b. FPO Act
- c. Agmark Act
- d. ISI Act
- The term "three quarterful or full three 48. quarter" is used to denote fruit maturity in:
  - a. Banana
- b. Mango
- c. Tomato
- d. Pineapple
- 49. During controlled atmospheric storage composition of which of the following set of gases is controlled:

  - a.  $O_2 + N_2$  b.  $CO_2 + N_2$
  - c.  $C_2H_4+N_2$  d.  $CO_2+O_2$
- 50. At which pH fruits and vegetables are divided into acidic and non-acidic for thermal processing:
  - a. 4.5
- b. 5.5
- c. 6.5
- d. 7.5





- 51. In pre-cooling, water is mostly removed by:
  - a. Convection
- b. Conduction
- c. Radiation
- d. None of these
- 52. Albinism is an important physiological disorder of:
  - a. Plum
- b. Peach
- c. Strawberry
- d. Cherry
- 53. Calliper grade is the maturity measurement for:
  - a. Apple
- b. Mango
- c. Banana
- d. Pineapple
- 54. Formation of abscission layer is maturity index of:
  - a. Tomato
  - b. Leafy vegetables
  - c. Melons
  - d. Onion
- 55. What is the maturity index for Avocado?
  - a. Sugar content b. Acid content
  - c. TSS
- d. Oil content
- 56. Which of the following is biodegredable plastic?
  - a. Poly propylene
  - b. LDPE
  - c. Polythene
  - d. Polyhydroxy butyrate

- 57. As fruits mature, the specific gravity will:
  - a. Increase
  - b. Decrease
  - c. Remains constant
  - d. None of these
- 58. 'Solidity' is the maturity index for:
  - a. Root vegetables
  - b. Seed vegetables
  - c. Leafy vegetables
  - d. Cucurbits
- 59. Which of the following plant hormone is considered as ripen?
  - a. Cytokinin
- b. GA<sub>3</sub>
- c. Ethylene
- d. IAA
- 60. Maximum density of water is at a temperature of:
  - a. 0°C
- b. 4°C
- c. 4°C
- d. -7°C
- 61. Guava fruit is botanically known as:
  - a. Drupe
- b. Sorosis
- c. Berry

- d. Pome
- 62. In onion pink colour is due to:
  - a. Anthocyanin
- b. Carotene
- c. Xanthophyll
- d. Quercitin





- 63 Secondary metabolites:
  - a. are essential to microbe function
  - b. are by-products of metabolism that are not important to microbe function
  - c. are products that require additional processing before they can be packaged
  - d. are harvested during the exponential phase of growth
- 64. Hen and Chicken disorder is associated with:
  - a. Mango
- b. Tomato
- c. Grapes
- d. Guava
- 65. The membrane lipid hypothesis was given by:
  - a. Kidd & West
  - b. James Harrison
  - c. Raison & Lyons
  - d. Graham & Patterson
- 66. The point at which the dried products just become lumpy is known as?
  - a. Danger Point
  - b. Saturated Point
  - c. Critical Point
  - d. Safety Point
- 67. What is the percentage of sugars in Honey?
  - a. 42%
- b. 82%
- c. 65%
- d. 62%

- 68. Fungus which mostly grown on grapes:
  - a. Geotrichum
  - b. Penicillium
  - c. Botrytis
  - d. Colletotrichum
- 69. Vitamin D is chemically known as:
  - a. Retinol
- b. Cobalamin
- c. Calciferol
- d. Tocopherol
- 70. Lye peeling is done at a temperature of:
  - a. 75°C
- b. 84°C
- c. 93°C
- d. 105°C
- 71. Which of the following is associated with 'browning' disorder?
  - a. Apple
- b. Cabbage
- c. Cauliflower
- d. Citrus
- 72. What is the threshold level of ethylene in fruit and vegetable?
  - a. 0.01 μL/L
- b.  $0.02 \,\mu L/L$
- c.  $0.03 \,\mu\text{L/L}$
- d.  $0.04 \,\mu$ L/L
- 73. Which of the following is a rapid precooling method?
  - a. Forced air Cooling
  - b. Hydro Cooling
  - c. Vacuum Cooling
  - d. Evaporative Cooling
- 74. In cucumber, chilling- injury symptoms occur at:
  - a. <7°C
- b. 7°C
- c. 10°C
- d. >10°C





- 75. Degreening is not applicable in:
  - a. Banana
- b. Guava
- c. Mango
- d. Citrus
- 76. Under normal conditions Orchid can be stored upto 2 weeks at:
  - a. 2-4°C
- b. 5-7°C
- c. 7.5-10°C
- d. >10°C
- 77. What is the operating principle behind oven drying for determining moisture content of foods?
  - a. Colour change is measured
  - b. Loss of weight represents loss of water
  - c. Change in refractive index is measured
  - d. Change in light absorbance is measured
- 78. Which of the following packages is an example of aseptic packaging?
  - a. Tetra Pak drinking boxes
  - b. Paper bag
  - c. Milk carton
  - d. Plastic bread bag
- 79. Which of the following ingredients in chocolate milk comes from seaweed?
  - a. Carrageenan
- b. Cocoa
- c. Sucrose
- d. Glucose
- 80. Which microorganism is commonly associated with fecal contamination?
  - a. Clostridium botulinum

- b. Campylobacter jejuni
- c. Bacillus cereus
- d. Trichinella spiralis
- 81. Which of the following analytical methods can be used to distinguish flavour compounds?
  - a. Hydrometry
  - b. Near infrared spectroscopy
  - c. Polarimetry
  - d. Gas chromatography
- 82. Which of the following microorganisms cannot tolerate oxygen?
  - a. Clostridium botulinum
  - b. Staphylococcus aureus
  - c. Penicillium roquefortii
  - d. E. coli
- 83. Which of the following methods is a quick test for sugar content during the early stages of the brewing process for beer?
  - a. Hydrometry
- b. Babcock test
- c. Wet ashing
- d. Soxhlet extraction
- 84. Which of the following processing methods involves heating foods at high temperatures for short periods of time in order to reduce the risk of food poisoning?
  - a. Blanching
- b. Ohmic heating
- c. Irradiation
- d. Pasteurization





- 85. Which of the following does not have antimicrobial activity?
  - a. Chlorophyll
- b. Organic acids
- c. Spice extracts
- d. Hydrogen peroxide
- 86. What is the percent of acetic acid in commercially available vinegar?
  - a. 2%
- b. 4%
- c. 6%
- d. 10%
- 87. Which of the following is not an intrinsic factor in food spoilage?
  - a. pH
- b. Moisture
- c. Temperature
- d. Available nutrients
- 88. Lyophilization is synonymous with:
  - a. Freeze-drying
  - b. Pasteurization
  - c. Filtration
  - d. Spoilage
- 89. Antibiotics tend to be:
  - a. Primary metabolites
  - b. Secondary metabolites
  - c. Tertiary metabolites
  - d. Quaternary metabolites
- 90. Amino acids are used as food additives for which of the following reasons?
  - a. As natural antibiotics
  - b. As natural growth inhibitors
  - c. For nutritive purposes
  - d. As antioxidants

- 91. Grinding and mixing of foods such as sausage and hamburger:
  - a. Increase the food surface area
  - b. Alter cellular structure
  - c. Distribute contaminating microorganisms throughout the food
  - d. All of the above
- 92. Louis Pasteur established the modern era of food microbiology in 1857 when he showed that microorganisms cause spoilage:
  - a. Beer
- b. Wine
- c. Juice
- d. Milk
- 93. Despite efforts to eliminate spoilage organisms during canning, sometimes canned foods are spoiled. This may be due to:
  - a. Spoilage before canning
  - b. Underprocessing during canning
  - c. Leakage of contaminated water through can seams during cooling
  - d. All of the above.
- 94. The effectiveness of many chemical preservatives depends primarily on the food:
  - a. Temperature
- b. pH.
- c. Water content
- d. Acidity.
- 95. Which type of fermentation is used to produce yogurt?
  - a. Mesophilic
- b. Thermophilic
- c. Therapeutic
- d. Yeast-lactic fermentations





- 96. Which of the following refers to the addition of microorganisms to the diet in order to provide health benefits beyond basic nutritive value?
  - a. Antibiotics
- b. Prebiotics
- c. Probiotics
- d. All the above
- 97. Moisture content in intermediate moisture food (IMF) is:
  - a. 10-20%
- b. 20-25%
- c. 20-40%
- d. 15-50%
- 98. Deep frying of potato chips lead to generation of carcinogen:
  - a. Acrylamide
- b. Acefamide
- c. Formamide
- d. Antioxidants
- 99. Which of the amino acid is not essential in diet:
  - a. Tyrosine
- b. Tryptophan
- c. Phenyl alanine d. Lysine
- 100. Material suitable for micro-wave heating:
  - a. EPP
- b. LDPE
- c. PET
- d. DAIP
- 101. Baking powder contains:
  - a. NaCl
- b. NaHCO<sub>3</sub>
- c. Na-benzoate
- d. NaI
- 102. FSSAI stands for:
  - a. Food Safety and Standards Authority of India

- b. Food Security and Standards Authority of India
- c. Food Safety and Security Authority of India
- d. Food Safety and Standards Agency of India
- 103. Which one of the following is not a food preservative?
  - a. Acetic acid
- b. Propionic acid
- c. Butyric acid
- d. Sorbic acid
- 104. Which out of the following is a non reducing sugar?
  - a. Fructose
- b. Glucose
- c. Mannose
- d. Sucrose
- 105. In cooking oils, the antioxidant added to prevent rancidity is:
  - a. Tocopherol
- b. Ascorbic acid
- c. BHT
- d. TBHO
- 106. Most common toxicogenic spoilage in stored groundnuts is:
  - a. Aspergillus flavus
  - b. Aspergillus niger
  - c. Aspergillus oryzae
  - d. Aspergillus albus
- 107. Sauerkraut is the fermented product of:
  - a. Cabbage
- b. Turnip
- c. Raddish
- d. Beetroot





108. Argemone o	il i	is	used	to	adultrate:
-----------------	------	----	------	----	------------

- a. Mustard oil
- b. Milk
- c. Tea
- d. Milk

#### 109. "C" enamel cans are used for:

- a. High acidic food
  - b. Non-acidic foods
  - c. Medium-acidic foods
  - d. Fat rich foods

#### 110. AGMARK was promulgated in:

- a. 1937
- b. 1954
- c. 1935
- d. 2009

#### 111. Cold test of fat is a measure of:

- a. Freezing point of oil
- b. Viscosity of oil at temperature just above its freezing point
- c. Resistance of oil to crystallization
- d. Total saturated fat
- 112. For manufacturing of pasta, wheat variety used is:
  - a. Soft wheat
- b. Hard wheat
- c. Durum wheat
- d. White wheat
- 113. Which of the following is produced with the combination of apoenzyme and coenzyme?
  - a. Holoenzyme
  - b. Enzyme substrate complex
  - c. Prosthetic group
  - d. Enzyme product complex

- 114. The enzyme which hydrolyses starch to maltose is:
  - a. Protease
- b. Amylase
- c. Lactase
- d. Maltase
- 115. Enzymes having slightly different molecules structure but performing identical activity are:
  - a. Apoenzymes
- b. Isoenzymes
- c. Holoenzymes
- d. Coenzymes

#### 116. Ribozyme is:

- a. RNA without phosphate
- b. RNA with sugar
- c. RNA with enzyme activity
- d. RNA with extra phosphate
- 117. Human insulin is being commercially produced from a transgenic species of:
  - a. Escherichia
- b. Saccharomyces
- c. Rhizobium
- d. Mycobacterium
- 118. Example of a typical homopolysaccharide is:
  - a. Lignin
- b. Suberin
- c. Inulin
- d. Starch
- 119. Which of the following is not a conjugated protein?
  - a. Peptone
- b. Phosphoprotein
- c. Lipoprotein
- d. Chromoprotein
- 120. The "Repeating Unit" of glycogen is:
  - a. Fructose
- b. Mannose
- c. Glucose

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d. Galactose





- 121. The catalytic efficiency of two different enzymes can be compared by the:
  - a. Molecular size of the enzyme
  - b. The pH optimum value
  - c. The Km value
  - d. Formation of the product
- 122. High value of BOD (Biochemical Oxygen Demand) shows:
  - a. Water is normal
  - b. Water is highly polluted
  - c. Water is less polluted
  - d. None of these
- 123. Which of the following is fermentation process?
  - a. Batch process
  - b. Continuous process
  - c. Both a and b
  - d. None of these
- 124. Who showed that *Sacchaaromyces* cerevisiae causes fermentation forming products such as beer and buttermilk?
  - a. Louis Pasteur
  - b. Alexander Fleming
  - c. Selman Waksman
  - d. Schatz
- 125. A bioreactor is:
  - a. Hybridoma
  - b. Culture containing radioactive isotopes

- c. Culture for synthesis of new chemicals
- d. Fermentation tank
- 126. Humulin is:
  - a. Carbohydrate b.
    - b. Protein
  - c. Fat
- d. Antibiotics
- 127. Enzyme immobilisation is:
  - a. Conversion of an active enzyme into inactive form
  - b. Providing enzyme with protective covering
  - c. Changing a soluble enzyme into insoluble state
  - d. Changing pH so that enzyme is not able to carry out its function
- 128. Vinegar is obtained from molasses with the help of:
  - a. Rhizopus
- b. Acetobacter
- c. Yeast
- d. Both b and c
- 129. Which of the following statements is incorrect regarding Gram negative bacteria:
  - a. Cell wall has a thin peptidoglycan layer
  - b. Cell wall lipid content is very low
  - c. Lipopolysaccharide layer is present
  - d. All of these





130.	<ul> <li>130. Common food poisoning microbes are:</li> <li>a. Clostridium and Salmonella</li> <li>b. Clostridium and E.coli</li> <li>c. E.coli and Salmonella</li> </ul>			Class IV milk includes milk used to		
				a. Produce hard cheese and cream cheese		
				b. Fluid milk		
				c. Fluid cream and cottage cheese		
	d. Clostridium and Streptococcus			d. Butter and any product in dried form		
131.	Clostridium perfit associated with:	ngens poisoning is	137.	A food must contain less than		
	a. Meat products b. Vegetables			grams of fat per serving to be considered a low fat food:		
	c. Canned foods	d. Fish products		a. 8	b. 6	
132.	Salmonellosis invo	olves:		c. 3	d. 7	
	<ul><li>a. An enterotoxin and exotoxin</li><li>b. An enterotoxin and cytotoxin</li><li>c. An exotoxin and cytotoxin</li></ul>			is a protein in milk that		
				contains all the essential amino acids:		
				a. Casein	b. Gluten	
	d. A cytotoxin on	ly		c. a and b	d. Whey protein	
133.	133. The lipid with the lowest energy value for human nutrition is:			is a defect in milk that is described as tasting papery:		
	a. Cardiolipin	b. Olestra		a. Bitter	b. Flat	
	c. Margarine	d. Olive oil		c. Oxidized	d. Salty	
134.		eddar cheese (28g) he RDA of calcium:	140.		general name for a at causes mastitis in	
	a. 10	b. 50		dairy cattle:		
	c. 75	d. 20		a. Lactobacilus		
135. Which of the following is a Class II product?				b. <i>E.coli</i>		
				c. Staphylococcus		
	a. Frozen desert b. Butter			d. Lactococcus		
	c. Fluid milk	d. Cheese				





- 141. Most UHT pasteurized milk has a shelf life of days:
  - a. 10
- b. 120
- c. 180
- d. 50
- 142. During malting, barley and other grains are broken down by:
  - a. Heating to 95 °C
  - b. Lagering
  - c. Amylases
  - d. Yeasts
- 143. Milk fermentation to produce cheese is done initially by inoculating with:
  - a. Saccharomyces cerevisiae
  - b. Streptococcus lactis and Lactobacillus spp.
  - c. Acetobacter and Gluconobacter
  - d. Lactobacillus bulgaricus and Streptococcus thermophilus
- 144. Nitrates maintain the red color of preserved meats and:
  - a. Are among the most widely used preservatives
  - b. Inhibit germination of botulism spores
  - c. Maintain a high osmotic pressure to kill microorganisms
  - d. Prevent mold
- 145. Salting, as a preservative:
  - a. Retards growth of Staphylococcus aureus

- b. Plasmolyzes bacteria and fungi
- c. Is used to prevent growth of halophiles
- d. All of the above

#### 146. In batch fermentation:

- a. Substrates are added to the system all at once and runs until product is harvested
- b. Nutrients are continuously fed into the reactor and the product is siphoned off during the run
- c. New batches of microorganisms are screened for increased yield
- d. Small-scale production is used to synthesize product
- 147. The technique first described to determine the incipient spoilage in meat was:
  - a. Homogenate Extract Volume (HEV)
  - b. Agar Plate Count (APC)
  - c. Extract Release Volume (ERV)
  - d. None of the above
- 148. Which of the following is responsible for a musty or earthy flavor?
  - a. Actinomycetes
  - b. Flavobacterium
  - c. Both a and b
  - d. Pseudomonas syncyanea





- 149. Molds causing spoilage of eggs include species of:
  - a. Cladosporium
  - b. Mucor
  - c. Thamnidium
  - d. All of these
- 150. Vacuum packaged meats are spoiled by:
  - a. B. thermosphacta
  - b. Lactobacilli
  - c. Both a and b
  - d. None of these
- 151. Which of the following pairs is not correctly matched?
  - a. X-ray: Roentgen
  - b. Radioactivity: Becquerel
  - c. Microscope: Galileo
  - d. Oxygen: Joseph Priestley
- 152. What is the correct sequence of Planets in terms of decreasing size?
  - a. Saturn, Earth, Neptune, Mars
  - b. Earth, Saturn, Mars, Neptune
  - c. Earth, Mars, Saturn, Neptune
  - d. Saturn, Neptune, Earth, Mars
- 153. Which of the following is incorrect about Nobel Prize 2014?
  - a. The Prize in Physics was awarded for invention of efficient blue light emitting diodes

- b. The Prize in Medicine was given for discovery of cells constituting positioning system in brain
- c. Kailash Satyarthi became first Indian to receive Noble Peace Prize
- d. Malala Yousafjai became the youngest ever Noble Peace Prize winner
- 154. Which of the following is a Kharif crop?
  - a. Tobacco
- b. Barley
- c. Potato
- d. Maize
- 155. Which of the following countries does not have Coastline?
  - a. Zimbabwe
- b. Cambodia
- c. North Korea
- d. Finland
- Name the first Vice President of India who was given Bharat Ratna:
  - a. Sarvapalli Radhakrishnan
  - b. Gyani Zail Singh
  - c. Dr. Rajendra Prasad
  - d. APJ Abdul Kalam
- 157. The maximum duration for which President of India's Office can remain vacant:
  - a. 2 months
- b. 3 months
- c. 6 months

d. It cannot

remain vacant





- 158. Which of the following pair (National Park: State) is incorrect?
  - a. Simlipal: Orissa
  - b. Nokrek: Meghalaya
  - c. Tadoba: Maharashtra
  - d. Guindy: Karnataka
- 159. Which body part gets affected in Cirrhosis?
  - a. Heart
- b. Liver
- c. Kidney
- d. Lungs
- 160. Which of the following teams did not play Semi Finals of inaugural edition of Hero Indian Super League?
  - a. Kerala Blasters
  - b. Chennaiyin FC
  - c. FC Goa
  - d. United North East
- 161. In Jainism 'Kaivalya' means:
  - a. Perfect Knowledge
  - b. Meditation
  - c. Nirvan
  - d. Ratna
- 162. Pulmonary artery originates from:
  - a. Right ventricle
  - b. Right auricle
  - c. Left auricle
  - d. Left ventricle

- 163. Which of the following means "by what authority"?
  - a. Mandamus b. Quo Warranto
  - c. Certiorari d. Habeas Corpus
- 164. Model Code of conduct comes in to force during election from:
  - a. Date of Notification
  - b. Last date of filing nomination
  - c. Date of announcement of election schedule by ECI
  - d. Date of Nomination
- 165. Who was known as 'Little Corporal'?
  - a. Bismark
  - b. Adolf Hitler
  - c. Napoleon Bonaparte
  - d. Lord Curzon
- only one representatives each in Lok Sabha?
  - a. Nagaland, Mizoram
  - b. Goa, Nagaland
  - c. Arunachal Pradesh, Tripura
  - d. Meghalaya, Mizoram
- 167. Beighton Cup is associated with:
  - a. Badminton
- b. Polo
- c. Kabaddi
- d. Hockey





- 168. Average blood volume in a normal human being is:
  - a. 5-6 litres
- b. 3-4 litres
- c. 2-3 litres
- d. 8-10 litres
- 169. Which of the following pairs is incorrect?
  - a. Bora-Adriatic Sea
  - b. Mistral-Gulf of Lion
  - c. Harmattan-Gulf of Guinea
  - d. Simoom-Gulf of Tongkin
- 170. Which of the following pair (river: origin place) is incorrect?
  - a. Chambal: Janapav
  - b. Son: Amarkantak
  - c. Tapi: Multai
  - d. Godavari: Mahabaleshwar
- 171. What is the name of position in which Earth and Sun are nearest?
  - a. Perihelion
- b. Aphelion
- c. Apogee
- d. Perigee
- 172. Who said that 'Education is the manifestation of perfection already in man'?
  - a. Swami Vivekanand
  - b. Sri Aurobindo
  - c. Ravindranath Tagore
  - d. Subhash Chandra Bose

- 173. INDICA was written by:
  - a. Ban Bhatt
- b. Kalidas
- c. Chanakya
- d. Megasthenese
- 174. World's only floating National Park is located in:
  - a. India
- b. West Indies
- c. Malaysia
- d. Australia
- 175. Jet Streams are:
  - a. Wind System with a pronounced seasonal reverse in direction
  - b. Winds blowing from subtropical High Pressure belts towards subpolar low pressure belts
  - c. Winds blowing from sub-polar low pressure belts towards subtropical High Pressure belts
  - d. Narrow meandering bands of swift winds which blow in the mid latitudes near the tropopause and encircle the globe
- 176. What is the missing number in the series:
  - 2, 7, 28, 63, 126,
  - a. 215
- b. 245
- c. 276
- d. 296





- 177. A man starts walking from his house towards south. After walking 5 km, he turned to his left and walked 6 km. Then he walked further 5 km after turning left. Then he turned to his left and continued to walk for 9 km. How far is he from his house?
  - a. 3 km
- b. 4km
- c. 5 km
- d. 6km
- 178. A man pointing to a lady said, "The son of her only brother is the brother of my wife". The lady is related to the man as:
  - a. Mother-in-law
  - b. Grand Mother
  - c. Mother's sister
  - d. Sister of Father-in-law
- 179. Which of the following country became first member of European Union to recognise the State of Palestine?
  - a. Hungary
- b. Sweden
- c. Poland
- d. Iceland
- 180. The first border haat (market) facility on Indo-Bangladesh International border in Tripura was recently opened at:
  - a. Sylhet-Chittagong border
  - b. Srinagar-Ramgarh border
  - c. Khulna-Rajshahi border
  - d. Rangpur-Dhaka border

- 181. International 'Internet Day' is celebrated on:
  - a. 27 August
- b. 28 September
- c. 29 October
- d. 30 November
- 182 Maya Rao who died recently was a renowned:
  - a. Kathak dancer
  - b. Bihu dancer
  - c. Odishi dancer
  - d. Kuchipudi dancer
- 183. The lifespan of Red Blood Cells (RBCs) is:
  - a. 60 days
- b. 120 days
- c. 180 days
- d. 200 days
- 184. Biosensor is used to measure:
  - a. Body pH
  - b. Blood Glucose level
  - c. Haemoglobin
  - d. Salinity in urine
- 185. Which are primary colours?
  - a. White, Black, Blue
  - b. Red, Yellow, Orange
  - c. Red, White, Green
  - d. Red, Green, Blue
- 186. The percentage (%) of Carbon in atmosphere, by volume, is:
  - a. 0.03
- b. 3
- c. 13

d. 21





- 187. Which organization releases 'World Investment Report' every year?
  - a. UNCTAD
- b. WTO
- c. IMF
- d. World Bank
- 188. Right to Property, according to Indian Constitution is a:
  - a. Legal Right
  - b. Social Right
  - c. Fundamental Right
  - d. Statutory Right
- 189. The book 'Planning and the Poor' was authored by:
  - a. Gunnar Mirdal
  - b. Amartya Sen
  - c. David Ricardo
  - d. B.S. Minhas
- 190. Which of the following pair (Country: Capital) is incorrect?
  - a. Cambodia: Vientin
  - b. Philippines: Manila
  - c. Syria: Damascus
  - d. Estonia: Tallin
- 191. Total number of High Courts in India is:
  - a. 20
- b. 22
- c. 24
- d. 25

- 192. Which one of the following is the correct chronological order in which the Grand Slam Tennis Tournaments are held every year?
  - a. US Open-French Open-Australian Open-Wimbledon
  - b. Australian Open- French Open-Wimbledon-US Open
  - c. French Open-Australian Open- US Open-Wimbledon
  - d. Wimbledon-French Open-US Open-Australian Open
- 193. Which article of the Indian Constitution relates to "Right to Education"?
  - a. Article 45
- b. Article 26A
- c. Article 21
- d. Article 15
- 194. When was Manipuri language added to 8th Schedule of Indian Constitution?
  - a. 1992
- b. 1998
- c. 2001
- d. 2004
- 195. Which of the following pairs is not correctly matched in respect of Manipur?
  - a. Nongeen: State bird
  - b. Pengba: State fish
  - c. Sangai: State animal
  - d. Orchid: State flower





- 196. The components of Human Development Index are:
  - a. Life Expectancy, Per Capita GDP and Sex Ratio
  - b. Sex Ratio, Educational Attainment and Pure Drinking Water
  - c. Life Expectancy, Per Capita GDP and Educational Attainment
  - d. Per Capita GDP, Sex Ratio and Infrastructure
- 197. What is Potlei?
  - a. A transparent and thin veil thrown over the head
  - b. Ras costume of Sri Radhika and the Gopis
  - c. Golden ring round the head
  - d. An Embroidered brightly coloured silk skirt

- 198. 21st Commonwealth Games in 2018 will be hosted by:
  - a. Australia
- b. South Africa
- c. Cameroon
- d. Maldives
- 199. Irang, Maku and Tuivai are important tributaries of:
  - a. Barak river
- b. Imphal river
- c. Yu river
- d. Chakpi river
- 200. Thabal Chongba is integral part of which festival?
  - a. Yaoshang
  - b. Ningol Chakouba
  - c. Heikru Hidongba
  - d. Cheiraoba

