63/25

Question Booklet Alpha Code

A

Question Booklet Sl. No.

A

Total Number of Questions : 100 **Time : 90 Minutes**

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C** & **D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

A

1. DFS formulations are intended to provide daily dietary iron requirement of
   A) 30% B) 30 – 60% C) 70% D) 40 – 70%
2. INS number for potassium metabisulphite is
   A) 224 B) 234 C) 244 D) 254
3. Expand NOAEL
   A) No Observed Acceptable Effect Level
   B) No Observed Adequate Effect Level
   C) No Observed Averse Effect Level
   D) No Observed Adverse Effect Level
4. Orthotricresyl phosphate is added as adulterants in
   A) Milk B) Turmeric C) Oils D) Pulses
5. HPLC is used to separate, identify and quantify compounds which are
   A) Non Volatile B) Polar
   C) Polar and Non Volatile D) Non Polar and Volatile
6. Enzyme used in clarification of cider, fruit juice and wine
   A) Rennin B) α Amylase
   C) β Amylase D) Fungal Pectinase
7. Method of analysis of lipids for low moisture foods
   A) Continuous extraction B) Solvent extraction
   C) Acid hydrolysis D) Alkaline hydrolysis
8. RDA of energy for heavy worker recommended by ICMR 2020
   A) 3490 B) 3470 C) 3460 D) 3480
9. Protein sparing action is the function of
   A) Carbohydrate B) Vitamins
   C) Protein D) Minerals
10. INS number 300-399 denotes
    A) Colour additives B) Preservatives
    C) Antioxidants D) Stabilizers
11. _____ is the ability of a lens to separate or distinguish between small objects that are close together.
    A) Focal length B) Resolution
    C) Numerical aperture D) Working distance

12. _____ is the temperature necessary to kill a given number of microorganisms in a fixed time.
    A) Thermal Death Time
    B) Thermal Death point
    C) Decimal reduction time
    D) F value

13. Which is the emetic toxin produced by *Bacillus cereus* ?
    A) Cereulide
    B) Neurotoxin
    C) Hemolysin
    D) Cytotoxin

14. _____ is an example for basic dye used in staining.
    A) Rose bengal
    B) Acid fuchsin
    C) Crystal violet
    D) All of these

15. _____ is a staining technique commonly used to identify *Mycobacterium Tuberculosis*.
    A) Gram staining
    B) Acid fast staining
    C) Giemsa staining
    D) Spore staining

16. Peptones in culture media serves as the source of
    A) Carbon
    B) Energy
    C) Nitrogen
    D) All of these

17. Ergotism is caused by the ingestion of grains infected with
    A) *Staphylococcus aureus*
    B) *Claviceps purpura*
    C) *Aspergillus flavus*
    D) *Fusarium moniliforme*

18. Aerobic Gram positive rod causing food intoxications
    A) *Clostridium botulinum*
    B) *Clostridium perfringens*
    C) *Bacillus cereus*
    D) All of these

19. *Streptococcus thermophilus* and *Lactobacillus delbrueckii* subspecies *bulgaricus* in 1 : 1 ratio is used as the starter culture for the preparation of
    A) Yoghurt
    B) Yakult
    C) Kefir
    D) Kumiss

20. Sauerkraut is a fermented food produced from
    A) Rice
    B) Milk
    C) Cabbage
    D) Fish

21. High frequency ultrasonicatin refers to
    A) 20 kHz – 100 kHz
    B) 100 kHz – 1 MHz
    C) 1 MHz – 100 MHz
    D) 100 MHz – 200 MHz

22. The syrup or brine to be added in canning should be at a temperature of
    A) 79°C to 82°C
    B) 90°C to 100°C
    C) 100°C to 110°C
    D) 110°C to 120°C

23. _____ is the incorporation of subsidiary constituents in or on the packaging material or the head space of the package to enhance the package performance.
    A) Vacuum packaging
    B) Modified atmosphere packaging
    C) Aseptic packaging
    D) Active packaging

24. Contact angle is measured in edible films for
    A) ensuring physical binding
    B) determining their hydrophobic or hydrophilic property
    C) to determine their surface tension
    D) to confirm their stretchability

25. JECFA is a Committee responsible for
    A) Millet promotion
    B) Food safety
    C) HACCP
    D) ISO

26. Emery rollers are used for
    A) Dehusking
    B) Polishing
    C) Powdering
    D) Winnowing

27. The optimum concentration of chlorine in minimal processing of fruits and vegetables should be kept between
    A) 50 – 100 ppm
    B) 100 – 150 ppm
    C) 120 – 150 ppm
    D) 150 – 200 ppm

28. Dry heat cooking of meat in a small amount of fat, then cooking by moist heat is
    A) Simmering
    B) Braising
    C) Stewing
    D) Broiling

29. Butter made without ripening and without addition of any preservative is
    A) Table butter
    B) White butter
    C) Sour cream butter
    D) Sweet cream butter

30. TSS in ready to serve beverages is
    A) 68 deg brix
    B) 65 deg brix
    C) 45 deg brix
    D) 10 deg brix

31. _____ screen cleaners are very popular for cleaning, grading and separation of agricultural granular materials.
    A) Vibratory
    B) Circular
    C) Gyratory
    D) Revolving

32. The stone separator separates the grain mass into two fractions as per the difference in
    A) Surface texture
    B) Specific gravity
    C) Relative length
    D) Size and shape

33. The ratio of the surface energy created by crushing to the energy absorbed by the solid is referred as
    A) Power efficiency
    B) Crushing efficiency
    C) Grain efficiency
    D) Miller efficiency

34. This is not a step in parboiling of Paddy
    A) Soaking
    B) Steaming
    C) Drying
    D) Germination

35. The objective of the conditioning is
    A) To loosen the husk
    B) Facilitate its separation from the kernel
    C) Reducing the milling losses
    D) All the above

36. Formation of hard impermeable layer at the surface during dehydration is
    A) Blanching
    B) Preservation
    C) Case hardening
    D) Migration

37. _____ is a process of heat transfer in which heat flows from a hotter body to a cold body in the form of electromagnetic waves and does not need any medium.
    A) Conduction
    B) Radiation
    C) Emission
    D) Convection

38. Process of size reduction which combines cutting and crushing is
    A) Shearing
    B) Impact
    C) Compression
    D) Grinding

39. Milled whole rice of 6/8 and more of actual kernel size is referred as
    A) Big Broken Rice
    B) Total Rice
    C) Head Rice
    D) Small Broken Rice

40. The removal of water from a substance by direct sublimation from the frozen state to the vapour state is known as
    A) Freeze drying
    B) Tray drying
    C) Blanching
    D) Sterilization

41. Under which Section is the Commissioner of Food Safety appointed ?
    A) Section 31
    B) Section 35
    C) Section 51
    D) Section 30

42. Which of the following is a key initiative of FSSAI ?
    A) Operation Milk Clean
    B) Eat Right India
    C) Food Import Facilitation
    D) Smart Food India

43. FSSAI issues the license under which Section of FSS Act ?
A) Section 10 B) Section 22 C) Section 31 D) Section 2

44. According to the 2016 Regulations, health supplements must not claim to
A) Boost metabolism
B) Prevent or cure any disease
C) Provide energy
D) Contain vitamins

45. Novel foods under the 2016 Regulation refer to foods that
A) Are cooked innovatively
B) Have traditional value
C) Do not have significant history of consumption in India
D) Are produced from GMOs

46. When is World Food Safety Day is celebrated ?
A) June 6 B) June 11 C) May 7 D) August 8

47. Who is responsible for approval of novel foods in India ?
A) State Food Commissioner
B) FSSAI
C) Ministry of AYUSH
D) ICMR

48. On 30th April 2025, FSSAI launched a new digital utility aimed at
A) Certifying food products for export
B) Promoting the use of organic ingredients
C) Enabling consumers to report misleading claims on food labels.
D) Monitoring restaurant hygiene through public reviews

49. According to first Schedule of APEDA Act, what is the mandate is responsible for how many products ?
A) 18 B) 17 C) 20 D) 19

50. Which of the following industries is not represented by 12 members appointed by Central Government, according to APEDA ?
A) Fruits and vegetable product industries
B) Meat, poultry and dairy product industries
C) Bakery industries
D) Packaging industries

51. What does the term “overall migration limit” refer to in food safety regulations ?
A) The maximum number of food additives allowed in packaging materials
B) The highest quantity of volatile substances that can evaporate from food containers
C) The maximum permitted amount of non-volatile substances released from packaging into food simulants
D) The limit on bacterial growth within packaged food products

52. According to the 2020 Labelling and Display Regulations, what symbol must be used to indicate the presence of non-vegetarian ingredients in a packaged food product ?
    A) A red triangle inside a square
    B) A brown circle inside a square
    C) A red dot inside a square
    D) A maroon star inside a rectangle

53. How many principles of HACCP exist ?
    A) 7 B) 8
    C) 9 D) 10

54. What is the recommended levels of available chlorine content in water used for sanitation of utensils, processing table, processing machinery etc. ?
    A) 200 ppm B) 100 ppm
    C) 150 ppm D) 110 ppm

55. Which is the fourth 'D' of pest control ?
    A) Destroy B) Damage
    C) Desurface D) Decimate

56. As per the Food Safety and Standards Guidelines, consumption of which Part of Allium sativum (Lahsuna) is not recommended during pregnancy ?
    A) Bulb B) Leaf C) Root D) Flower

57. Which of the following is not a major product which is exported in the organic sector, according to APEDA ?
    A) Pulses B) Mangor pulp
    C) Flaxseeds D) Chia seeds

58. Evaporation is different from dehydration in the sense that at the end of the process we get thick liquor and the food product remains in _____ state.
    A) Solid B) Cooling
    C) Liquid D) Gas

59. What was the primary objective behind the establishment of the Food Safety and Standards Authority of India (FSSAI) under the Food Safety and Standards Act, 2006 ?
    A) To regulate agricultural exports
    B) To promote traditional medicine
    C) To consolidate multiple food laws and establish a single regulatory body for food safety
    D) To oversee pharmaceutical product approvals

60. As per the Food Safety and Standards (Low Alcoholic Beverages) Regulations, 2018, the ethyl alcohol content in low alcoholic beverages (other than wine and beer) must be within which range at 20°C ?
    A) 0.5% to 8.0% by volume
    B) 1.0% to 5.0% by volume
    C) 0.1% to 2.0% by volume
    D) 0.5% to 10.0% by volume

61. According to the Food Safety and Standards Regulations for fortified oil, which of the following is the correct range for the Vitamin D content per gram of oil ?
    A) 0.1 μg – 0.2 μg per gram of oil
    B) 0.11 μg – 0.16 μg per gram of oil
    C) 0.2 μg – 0.3 μg per gram of oil
    D) 0.05 μg – 0.1 μg per gram of oil

62. Which of the following doesn't come under new product/new market (Flag Off Programs) ?
    A) Dried pomegranate arils
    B) Curry leaves
    C) Tamarind tender leaves
    D) Ice apple/Palmyra fruit

63. According to the compositional specifications for evaporated milk, what is the minimum milk fat percentage required for evaporated high-fat milk ?
    A) 7.5% B) 1.0% C) 15.0% D) 20.0%

64. Which of the following fishe species have potential to cause histamine poisoning ?
    A) *Selene spp.*
    B) *Coryphaena hippurus*
    C) *Scomber japonicas*
    D) All of the above

65. According to FSSAI, what is the quantity of carbonated water to be sent to the food analyst for testing and analysis ?
    A) 1.5 lts. B) 2 lts. C) 3 lts. D) 3.5 lts.

66. Which of the following statements is correct regarding the classification of laboratories under FSSAI ?
    A) Laboratories are categorized as Primary, Secondary and Tertiary
    B) FSSAI classifies laboratories as Government, Private and NGO run
    C) Laboratories are classified into Basic, Intermediate and Advanced categories
    D) FSSAI classifies laboratories into Primary, Referral and National reference categories

67. How long should a legal sample be stored after the completion of analysis, in general regulatory practice ?
    A) Until the end of the month
    B) For 7 days
    C) As prescribed by applicable regulations or until the case is closed
    D) Indefinitely

68. Which of the following is considered a general hazard in a food laboratory ?
    i. Use of sterile gloves
    ii. Slippery floors
    iii. Food contamination
    iv. Using safety goggles
    A) Only i
    B) Only ii
    C) Only i and iii
    D) All of the above

69. What is the significance of proper documentation in laboratory sample handling ?
    i. It increases the weight of the sample
    ii. It ensures regulatory traceability and accountability
    iii. It speeds up the analysis process
    iv. It is only required for food samples
    A) Only i and ii
    B) Only ii
    C) Only iii
    D) All of the above

70. Which of the following statements correctly reflects the requirements and recognition hierarchy among NABL, APLAC and ILAC in the context of laboratory accreditation for food testing under FSSAI ?
    A) NABL accreditation is internationally recognized only if the laboratory is separately accredited by ILAC.
    B) APLAC is a national accreditation body under NABL that ensures conformity to ISO/IEC 17025.
    C) NABL is a signatory to both APLAC and ILAC mutual recognition Arrangements (MRAs), ensuring international equivalence of accredited labs.
    D) Laboratories accredited by NABL are exempt from following ISO/IEC 17025 : 2017 if they comply with ILAC-G8 guidelines.

71. What is the first step when a laboratory receives a legal sample ?
    A) Start the analytical process
    B) Document the results in the register
    C) Verify and register the sample in the lab registry
    D) Store the sample directly in the refrigerator

72. Which is the best way to dispose of chemical waste ?
    A) Pour down the sink
    B) Mix with other waste
    C) Follow institutional hazardous waste disposal protocols
    D) Burn in open air

73. Identify the correct statement regarding traceability in measurement.
    A) Traceability means tracking food shipments from source to destination
    B) It refers to linking measurement results to national or international standards through unbroken chains of comparisons
    C) It ensures that all laboratory results are printed on paper for review
    D) Traceability focuses on employee time tracking during laboratory analysis

74. Which of the following statements regarding the Food Import Clearance System (FICS) implemented by FSSAI is most accurate in the context of import control and regulatory compliance ?
    A) FICS allows importers to bypass physical inspection if their product has been previously cleared within the same calender year
    B) The clearance under FICS is issued by customs officials after laboratory analysis of the consignment
    C) FICS integrates with the customs ICEGATE system and mandates risk-based sampling and inspection by authorized officers of FSSAI before clearance
    D) Importers can directly upload laboratory test results to FICS to expedite clearance without FSSAI's verification

75. National Reference Laboratories (NRLs) under FSSAI are mainly responsible for
    i. Coordinating the functioning of Referral Laboratories and method standardization
    ii. Routine sample testing only
    iii. Food labelling and packaging
    iv. State-level inspection
    A) Only i
    B) Only ii and iii
    C) Only i and iv
    D) All of the above

76. Which of the following is a measure of how close is the data to the actual value ?
    A) Accuracy
    B) Precision
    C) Error
    D) Variance

77. What type of sampling may be performed by the food processor or buyer before receiving materials from a supplier ?
    A) Attribute sampling
    B) Variable sampling
    C) Acceptance sampling
    D) Random sampling

78. Which of the following is not a form of water in food ?
    A) Free water
    B) Adsorbed water
    C) Surface water
    D) Water of hydration

79. If there is uniform shrinkage in all directions of the food material, it is referred to as
    A) Anisotropic shrinkage
    B) Isotropic shrinkage
    C) Unisotropic shrinkage
    D) None of the above

80. The SI unit of dynamic viscosity is
    A) g/cm.s
    B) Pa.s
    C) N/s
    D) N.s

81. Which of the following components in a mass spectrometer is responsible for separating ions based on their mass-to-charge ratio (m/z) ?
    A) Ion source
    B) Detector
    C) Mass analyser
    D) Vacuum system

82. Which of the following enzymes is essential for the Polymerase Chain Reaction (PCR) to amplify DNA ?
    A) RNA polymerase
    B) DNA ligase
    C) Reverse transcriptase
    D) Taq polymerase

83. In reverse-phase High Performance Liquid Chromatography (RP-HPLC), what is the most likely cause of peak tailing when analyzing basic compounds ?
    A) Insufficient mobile phase pressure
    B) Strong hydrophobic interactions with the stationary phase
    C) Interaction of analytes with residual silanol groups on the stationary phase
    D) High flow rate of the mobile phase

84. Which of the following statements best explains why fluorescence spectrometry is generally more sensitive than UV-V is absorbance spectrometry ?
    A) Fluorescence involves the emission of higher energy photons than absorption
    B) Fluorescence measures the absorbed light directly, leading to less noise
    C) Fluorescence detects emitted light against a dark background, reducing background signal
    D) Fluorescence can only be used for colored compounds, making it more selective

85. Which of the following is most commonly used as an indicator in a strong acid-strong base titration ?
    A) Methyl orange
    B) Phenolphthalein
    C) Bromothymol blue
    D) Litmus

86. In texture analysis, which of the following parameters is most commonly measured during a compression test using a texture analyzer ?
    A) Color intensity
    B) pH value
    C) Force versus distance curve
    D) Thermal conductivity

87. Which of the following steps is essential to ensure accuracy in a gravimetric analysis ?
    A) Using a UV-V is spectrophotometer to measure concentration
    B) Precipitating the analyte rapidly at high temperature
    C) Filtering, drying and weighing the precipitate to constant mass
    D) Adding excess titrant to ensure full reaction

88. In Raman spectroscopy, the Raman effect arises due to
    A) absorption of photons by electrons in the molecule
    B) elastic scattering of light by molecules
    C) inelastic scattering of light causing a change in vibrational energy
    D) emission of photons after excitation to a higher electronic state

89. According to Beer-Lambert Law, absorbance (A) is directly proportional to
    A) wavelength of the incident light
    B) square of the concentration of the solution
    C) concentration of the absorbing species and path length
    D) refractive index of the solvent

90. Which of the following types of viscometers is most commonly used for measuring the viscosity of low viscosity liquids such as water and solvents ?
    A) Rotational viscometer
    B) Falling ball viscometer
    C) Capillary viscometer
    D) Oscillatory viscometer

91. Which of the following statements is correct when considering the development history of Artificial Intelligence (AI) ?
    i. Alan Turing published Computer Machinery and Intelligence (1950), which proposed a test of machine intelligence called 'The Imitation Game'.
    ii. John McCarthy coined the term Artificial Intelligence (AI) and held a workshop on Artificial Intelligence at Dartmouth (1955).
    A) Both i and ii
    B) Only i
    C) Only ii
    D) Neither i nor ii

92. Which of the following Malayalam screenplay is not included in M. T. Vasudevan Nair ?
    i. *Nagaramenandi*
    ii. *Anandaram*
    iii. *Kochuthemmadai*
    iv. *Nizhalattam*
    A) Only i and iv
    B) Only ii
    C) Only iii
    D) Only i, iii and iv

93. Match the following :

List – A (Asian Countries)	**List – B (Geographical Locations)**
i. Singapore	a. Southern Asia
ii. Jordan	b. East Asia
iii. South Korea	c. South East Asia
iv. Bhutan	d. Western Asia

    A) i – c ii – d iii – b iv – a
    B) i – d ii – c iii – a iv – b
    C) i – c ii – d iii – a iv – b
    D) i – a ii – d iii – b iv – c

94. Which of the following persons are not elected directly by the people in India ?
    i. Member of the Legislative Councils
    ii. Member of the upper house of the Indian Parliament
    iii. Governor of the States
    iv. Vice President of India
    A) Only i and ii
    B) Only ii, iii and iv
    C) Only iii and iv
    D) All i, ii, iii and iv

95. Who won the Lifetime Achievement Award for the 29th International Film Festival of Kerala (IFFK) at Thiruvananthapuram in December 2024 ?
A) Bela Tarr
B) Ann Hui
C) Fernando Solanas
D) Jean Luc Godard

96. Which of the following is/are the qualities of a good interviewer ?
i. Accuracy
ii. Adaptability
iii. Temperament
iv. Intelligence
A) Only i and iv
B) Only i and ii
C) Only iii and iv
D) All i, ii, iii, iv

97. Which of the following is/are not an indirect tax in India ?
i. Customs Duty
ii. Goods and Services Tax (GST)
iii. Capital Gains Tax
iv. Stamp Duty
A) Only i and iv
B) Only ii and iii
C) Only iii
D) Only iv

98. Which of the following is/are the work of Yuval Noah Harari ?
i. Homo Deus : A Brief History of Tomorrow
ii. Humankind : A Hopeful History
iii. Sapiens : A Brief History of Humankind
iv. 21 Lessons for the 21st Century
A) Only i and iv
B) Only i and ii
C) Only i and iii
D) Only i, iii and iv

99. Chronologically arrange the following events/incidents.
i. Bhopal Gas Tragedy
ii. Birth of first test tube baby
iii. Tiananmen Square Massacre
iv. Disintegration of USSR
A) ii, iv, iii, i
B) i, ii, iv, iii
C) ii, i, iii, iv
D) iv, ii, iii, i

100. Which of the following is/are the LINUX-based mobile phone operating system ?
i. Ubuntu touch
ii. Post market OS
iii. Lineage OS
iv. Mobian
A) Only i, ii and iii
B) Only i and iv
C) Only i and iii
D) Only i, ii and iv

Space for Rough Work