

006/2018

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total No. of Questions: 100

Maximum : 100 Marks

Time : 75 Minutes

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 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.

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Maximum : 100 Marks

Time : 1 hour and 15 minutes

1. Who is the present Chief Justice of India ?
(A) T. S. Thakur (B) Ranjan Gogo
(C) Jagadhish Singh Khehar (D) Dipak Misra
2. Article 368 of the Indian Constitution deals with
(A) Amending Procedure (B) Emergency Provisions
(C) Right for Information (D) Right to Education
3. The Constitution of Jammu and Kashmir came into force on
(A) 26 January, 1956 (B) 26 January, 1957
(C) 15 August, 1956 (D) 15 August, 1947
4. The theory of Separation of Powers is a division of powers between
(A) the Economy and polity
(B) Central and State Governments
(C) different branches of Government
(D) State and Local Governments
5. Which of the following Article of Indian Constitution ensures Freedom of Press in India ?
(A) Article 25 (B) Article 350
(C) Article 19 . (D) Article 326
6. Who wrote the devotional work Narayaniyam ?
(A) Melpathur Narayana Bhattathiri
(B) Punthanam
(C) Ramanuja
(D) Ezhuthachan
7. English education started in Travancore at the time of
(A) Ayillium Thirunal (B) Visakham Thirunal
(C) Uthradam Thirunal (D) Swathy Thirunal
8. Who assumed the title as “the Father of Political Movement in Modern Travancore” ?
(A) K. Ramakrishna Pillai (B) Dr. Palpu
(C) G. Parameswara Pillai (D) Swadeshabhimani Ramakrishnan
9. Who started the newspaper called “Sujananandini” ?
(A) Kesavan Asan (B) C. V. Kunjiraman
(C) K. Kelappan (D) A. K. Gopalan

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[P.T.O.]

10. The S. N. D. P. Yogam came into existence on
 (A) December 1, 1920 (B) June 10, 1905
 (C) May 15, 1903 (D) December 1, 1903
11. Who wrote the famous Malayalam novel “The Marthanda Varma” ?
 (A) Chandu Menon (B) C. V. Raman Pillai
 (C) S. K. Pottakkadu (D) M. R. Nair
12. First Chairperson of National Commission for Woman.
 (A) Girija Vyas (B) V. Mohini Giri
 (C) Jayanti Patnaik (D) Lalitha Kumaramangalam
13. Name the Prepaid Smart Card introduced by the Kochi Metro.
 (A) Metro Card (B) Kochi One
 (C) Smart Card (D) One Kochi
14. Slavery was abolished in Travancore on :
 (A) 1910 (B) 1836
 (C) 1812 (D) 1811
15. Who Prepared the first lexicon and grammar work in Malayalam ?
 (A) Benjamin Bailey (B) Arnos Pathiri
 (C) Herman Gundert (D) William Logan
16. Who wrote the book called “Adibhasha” ?
 (A) V. T. Bhattathirippad (B) Vaikunda Swamikal
 (C) Chattambi Swamikal (D) Ayyankali
17. Ayyavazhi theology related to :
 (A) Thycaud Ayya Vaikundar (B) Sree Narayana Guru
 (C) Vagbhadananda (D) Vaikunda Swamikal
18. A Collection of book reviews by Kuttipuzha Krishana Pillai :
 (A) Kanneerum Kinavum (B) Smarana Manchari
 (C) Malayalam Book Reviews (D) Grandavalokanam
19. Who is the author of The Sarachandrika, a significant contribution to the literature on Ayurveda ?
 (A) Dr. K. Muraleedharan (B) Paravoor Kesavan
 (C) P. M. Govindan Vaidyan (D) P. R. Variar
20. Which is set to be India’s first Book Village ?
 (A) Bastar (Chattisgarh) (B) Anantapur (Andhra Pradesh)
 (C) Araria (Bihar) (D) Bhilar (Maharashtra)

21. Collagen is rich in following amino acids -
(A) Lysine, Elastin, Glycine
(B) Glycine, Proline, Hydroxyproline
(C) Cysteine, Methionine, Proline
(D) Leucine, Valine, Hydroxyproline
22. Hydro-thermal treatment of cereal starches is associated with following
(A) Germination (B) Gelatinization
(C) Dextrinization (D) Retrogradation
23. Identify the pigment present in beetroot.
(A) Anthocyanins (B) Lycopene
(C) Betalain (D) Carotenoids
24. Lathyrism is caused due to the consumption of following
(A) Lentils (B) Bengal gram
(C) Horse gram (D) Kesari dhal
25. Identify the process used for fractionation of wheat grain into different primary products.
(A) Tempering and Grinding (B) Plate milling
(C) Differential sieving (D) Roller milling
26. Mangoes can be artificially ripened by
(A) Nitrates (B) Magnesium sulphate
(C) Calcium carbide (D) Potassium chlorate
27. MAP stands for
(A) Modified Air Packaging
(B) Modified Atmosphere Packaging
(C) Metal and Aluminium Packaging
(D) Moderate Atmosphere Packaging
28. Identify the unique wheat fraction responsible for dough making properties of wheat.
(A) Albumin (B) Prolamine
(C) Gluten (D) Globulin

29. Crystallization of sugar in ice cream can be prevented by
- (A) Slow freezing
 - (B) Quick freezing
 - (C) Intermittent freezing and thawing
 - (D) Adding emulsifiers
30. FSSAI stands for
- (A) Fodder safety and standards authority of India
 - (B) Food and soil safety authority of India
 - (C) Food standards and safety authority of India
 - (D) Food safety and standards authority of India
31. Isozymes can be defined as
- (A) Different forms of an enzyme which catalyze the same reaction
 - (B) Set of enzymes catalyzing different reactions
 - (C) Set of enzymes acting on different substrates
 - (D) Different enzymes working in similar conditions
32. Energy value of a glass of milk, measuring around 200 ml, will be
- (A) 146 kcal.
 - (B) 180 kcal.
 - (C) 100 kcal.
 - (D) 220 kcal.
33. The process of parboiling of rice causes
- (A) Loss of nutrients
 - (B) Gain of nutrients
 - (C) Both loss and gain of nutrients
 - (D) None of the above
34. Which one of the following denotes nutritional composition of soya bean ?
- (A) Protein - 38%, Fat - 19%, CHO - 13%.
 - (B) Protein - 35%, Fat - 30%, CHO - 5%.
 - (C) Protein - 30%, Fat - 28%, CHO - 12%.
 - (D) Protein - 25%, Fat - 35%, CHO - 10%.

35. Following bacterial cultures are predominantly seen in yogurt cultures
- (A) *Leuconostoc mesenteroides* and *L. plantarum*
 - (B) *Lactobacillus brevis* and *S. faecalis*
 - (C) *Saccharomyces cerevisiae* and *Bifidus bacteria*
 - (D) *Lactobacillus bulgaricus* and *Streptococcus thermophilus*.
36. The process used for preparation of malt from cereals and legumes is
- (A) Parboiling
 - (B) Roasting
 - (C) Controlled germination
 - (D) Soaking and drying
37. Germination of legumes causes a reduction in following class of substances in legumes , _____
- (A) Antioxidants
 - (B) Antinutrients
 - (C) Antimicrobials
 - (D) Anticarcinogens
38. Tofu is prepared from
- (A) Red Kidney bean
 - (B) Bengal gram
 - (C) Cow pea
 - (D) Soya bean
39. This ingredient can be used to prepare lactose free milk for babies allergic to cow's milk.
- (A) Soya bean
 - (B) Goat's milk
 - (C) Pumpkin seeds
 - (D) Camel milk
40. Identify Intermediate moisture foods from the following group of foods
- (A) Honey, jam, jelly
 - (B) Pickles, papads, chips
 - (C) Biscuits, puffs, cake
 - (D) Fruit squash, fruit juice, honey
41. Mold grown in bread can be prevented by using the following
- (A) Potassium chloride
 - (B) Ascorbates
 - (C) Propionates
 - (D) Barbiturates
42. Meat grilled at high temperature can be harmful on account of formation of
- (A) Polycyclic aromatic hydrocarbons
 - (B) Hydroxymethyl furfurals
 - (C) Carbonated aldehydes
 - (D) Nitrates and nitrites

43. Bacteria which can survive under refrigeration are known as
(A) Mesophilic (B) Proteophilic
(C) Psychrophilic (D) Thermophilic
44. Saurkraut is fermented product of
(A) Fruit (B) Vegetable
(C) Cereal (D) Pulse
45. Which one of the following cooking techniques causes highest destruction of vitamins in vegetables ?
(A) Boiling (B) Microwaving
(C) Baking (D) Pressure cooking
46. Identify the active principle of garlic.
(A) Gallic acid (B) Garcinia
(C) Garlicine (D) Allicin
47. The conversion of liquid egg to a solid or semisolid state on heating is known as
(A) Emulsification (B) Precipitation
(C) Agglomeration (D) Coagulation
48. Micro-organisms in foods can be completely killed by
(A) Drying (B) Pasteurization
(C) Radiation (D) Blanching
49. In fruit squashes, the minimum amount of fruit juice should be
(A) 40% (B) 30%
(C) 25% (D) 50%
50. Among the following, which fruit is ideal for preparation of jelly ?
(A) Guava (B) Papaya
(C) Banana (D) Pears
51. Identify the common technique used for the production of milk powder ?
(A) Sun drying (B) Spray drying
(C) Foam mat drying (D) Mechanical drying

52. Blanching of vegetables causes
(A) Inactivation of enzymes (B) Preservation of nutrients
(C) Cooking of vegetables (D) Increased microbial growth
53. Following additive can be classified as flavour potentiator.
(A) Sodium chloride (B) Monosodium glutamate
(C) Acidulants (D) Sodium bicarbonate
54. Which among the following attributes are not sensory characteristics of food ?
(A) Appearance, colour (B) Taste, flavour
(C) Texture, consistency (D) Composition, nutrients
55. The sensory test in which food products are rated from 'extremely like' to 'extremely dislike' is -
(A) Hedonic test (B) Threshold test
(C) Triangle test (D) Duo-trio test
56. Sucrose is composed of following two sugars.
(A) Glucose and glucose (B) Glucose and galactose
(C) Glucose and lactose (D) Glucose and fructose
57. Identify the sugar with highest sweetness among the following.
(A) Glucose (B) Fructose
(C) Sucrose (D) Lactose
58. A fat substitute which can be used for bakery products is
(A) Sucrose polyester (B) Sucrose polyol
(C) Maltitol (D) Sucralose
59. Industrial effluents cause a high content of this metal contaminant in fish.
(A) Lead (B) Mercury
(C) Arsenic (D) Zinc
60. Which of the following foods sold commercially is most likely to carry harmful organisms ?
(A) Cheese sandwich (B) Potato cutlets
(C) Pizza (D) Raw vegetable salad

61. Which of the following element is monoisotopic ?
(A) Fluorine (B) Neon
(C) Oxygen (D) Helium
62. Which of the following observation was correct by J.J Balmer regarding visible hydrogen spectrum ?
(A) A red line with a wavelength of 6563 Å
(B) A red line with a wavelength of 3563 Å
(C) A blue line with a wavelength of 6563 Å
(D) A blue line with a wavelength of 3563 Å
63. The isotope with maximum binding energy per nucleon is
(A) ^{52}Fe (B) ^{56}Fe
(C) ^{54}Fe (D) ^{58}Fe
64. The IR spectrum of a compound identifies
(A) the presence of resonating structures
(B) the presence of certain functional groups
(C) the presence of isotopes of elements
(D) All the above
65. The Bohr radii of the fourth orbit of hydrogen atom in centimetre is
(A) 8.46×10^{-8} (B) 4.46×10^{-8}
(C) 13.2×10^{-8} (D) 6.26×10^{-8}
66. A solubility curve is obtained by plotting solubility of the substance against
(A) Molecular mass (B) Temperature
(C) Weight of water in grams (D) None of these
67. A catalyst will increase the rate of the reaction by
(A) shifting the equilibrium to the left
(B) increasing the activation energy
(C) shifting the equilibrium to the product side
(D) decreasing the activation energy
68. A pair of nuclei having same number of protons and neutrons but different half lives are called
(A) Nuclear isotones (B) Nuclear isomers
(C) Nuclear pairs (D) None of these

69. The mole fraction of ethyl alcohol in a solution containing 5.4 g of water and 9.2 g of ethyl alcohol is
(A) 0.8 (B) 0.4
(C) 1.0 (D) 0.6
70. The ratio of the depression in freezing point of equimolar solution of NaCl, Glucose and Urea is
(A) 2:1:1 (B) 2:2:1
(C) 1:2:1 (D) None of these
71. The base peak in a mass spectrum is
(A) The peak with high mass by charge ratio
(B) The peak with low mass by charge ratio
(C) The peak with the highest intensity
(D) None of these
72. Which of the following increase with decrease in dilution ?
(A) Specific Conductance (B) Molar conductance
(C) Equivalent Conductance (D) Both (A) and (B)
73. If the dissociation constant of HCN is 4×10^{-10} , then the hydrolysis constant for NaCN is
(A) 1.5×10^{-7} (B) 2.5×10^{-5}
(C) 2.5×10^{-7} (D) 1.5×10^{-5}
74. The approximate torsional energy between eclipsed and staggered conformation of ethane is
(A) 10.5 kJ per mole (B) 14.5 kJ per mole
(C) 18.5 kJ per mole (D) 12.5 kJ per mole
75. The acid catalysed dehydration of 1,2 glycols followed by rearrangement to form a ketone is generally called
(A) Perkin reaction (B) Fries rearrangement
(C) Keto enol rearrangement (D) Pinacol pinacolone rearrangement
76. The aqueous solution of the salt of ammonium acetate is
(A) Neutral (B) Basic
(C) Acidic (D) Either acidic or basic

77. The non-bonding molecular orbital present in the MO picture of sigma bonding in octahedral complexes is
(A) t_{2g} (B) t_{1u}
(C) e_g (D) a_{1g}
78. The reaction between alkyl halide and lithiumdialkyl copper to obtain an alkane is called
(A) Wurtz reaction (B) Sendren's reaction
(C) Corey -House reaction (D) Curdy's reaction
79. The octane number of diesel is expressed by mixing a sample of iso octane with
(A) n- Heptane (B) n- nonane
(C) Iso heptane (D) Iso nonane
80. Hexaamminecobalt(III) ion is a
(A) Outer orbital High spin complex
(B) Outer orbital Low spin complex
(C) Inner orbital High spin complex
(D) Inner orbital Low spin complex
81. The total number of hydroxy group present in thiosulphuric acid is
(A) one (B) three
(C) two (D) four
82. The effective number of electrons in $Fe_2(CO)_9$ is
(A) 8 (B) 32
(C) 36 (D) 18
83. The particle size of the precipitate in a gravimetric estimation could be related to a property called
(A) Relative supersaturation (B) Nucleation
(C) Digestion (D) Crystal growth
84. The external indicator used in the titration of $FeSO_4$ against potassium dichromate is
(A) Starch (B) Eriochrome blue
(C) Potassium Hexacyanoferrate (D) Xylenol orange

85. Kuroll's salt are generally
(A) Poly dimethoxy compounds (B) Polymetaphosphates
(C) Polyphosphonitriles (D) Poly phosphazines
86. Buna N is a copolymer of 1,3 butadiene with
(A) Acetoacetates (B) Nitrobenzene
(C) Nitriles (D) Vinyl cyanide
87. In the proton NMR spectrum of propane has
(A) A triplet, a quadret and a pentent
(B) A triplet only
(C) A triplet and a septet
(D) A triplet and pentet
88. Diphenyl guanidine is used in the vulcanization process as
(A) Retarder (B) Accelerator
(C) Dye (D) Plasticiser
89. Which one of the following is an anti-aromatic compound ?
(A) Azulene (B) Cyclooctatetrene
(C) Tropylium ion (D) Napthalene
90. Among the four acids given below, which one is not an unsaturated acid ?
(A) Crotonic Acid (B) Malic acid
(C) Cinnamic acid (D) Acrylic acid
91. 1, 3 butadiene on bromination in presence of hexane and the products on warming upto 60 °C, then the major product is
(A) 1,3 addition product (B) 1,2 addition product
(C) 2,3 addition product (D) 1,4 addition product
92. The energy associated with the second energy level of hydrogen atom in erg per atom is
(A) 8.44×10^{-12} (B) 15.44×10^{-12}
(C) 5.44×10^{-12} (D) 21.44×10^{-12}

93. Which one of the following is ortho, para directing and activating group
 (A) $-\text{NR}_3$ (B) $-\text{COR}$
 (C) $-\text{COOR}$ (D) $-\text{NHCOR}$
94. Trans 2- butene on bromination gives
 (A) Mesodibromide (B) Racemic mixture of dibromide
 (C) Dextrodibromide (D) Leavo dibromide
95. The electronic configuration of Europium is
 (A) $[\text{Xe}] 4f^7 5d^1 6s^2$ (B) $[\text{Xe}] 4f^7 5d^1 6s^1$
 (C) $[\text{Xe}] 4f^9 5d^0 6s^2$ (D) $[\text{Xe}] 4f^7 5d^0 6s^2$
96. The dominant functional group present in Dowex-50 resin that is usually used as the ion exchange resin column for the separation of lanthanides is
 (A) $-\text{NH}_2$ (B) $-\text{OH}$
 (C) $-\text{SO}_3\text{H}$ group (D) $-\text{COOR}$ group
97. For Ferrimagnetic substances, below curie temperature ,
 (A) Spins are aligned parallel and cancel each other
 (B) Spins are aligned anti-parallel and cancel each other
 (C) Spins are aligned anti-parallel but do not cancel each other
 (D) None of these
98. Which one of the following is a protophilic solvent ?
 (A) CH_3COOH (B) HF
 (C) $\text{C}_2\text{H}_5\text{OH}$ (D) $\text{C}_6\text{H}_5\text{N}$
99. An indicator of the intermolecular binding force which keeps the molecules together in a solvent.
 (A) Liquid constant (B) Dalton constant
 (C) Trouton constant (D) Buoyant constant
100. Barium nitrate and silver chloride react in liquid ammonia medium to form a precipitate of —
 (A) Silver nitrate (B) Both Silver nitrate and Barium chloride
 (C) Barium chloride (D) No precipitation occurs

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