

064/2017

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total Number of Questions : 100

Time : 75 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 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.

064/2017

- Ohm's Law states that :
(A) $V = IR$ (B) $V = \frac{I}{R}$ (C) $I = \frac{R}{V}$ (D) $I = VR$
- Choose the odd one :
(A) Electromagnetic force (B) Gravitational force
(C) Strong nuclear force (D) Spring force
- Earth magnetism is due to :
(A) Dynamo effect (B) Doppler effect (C) Solar effect (D) Magnus effect
- Which principle is used to check the correctness of an equation ?
(A) Principle of Continuity (B) Principle of Parallax
(C) Principle of Conduction (D) Principle of Homogeneity
- The acronym LASER stands for :
(A) Light Amplification by Stimulated Emission of Radiation.
(B) Light Attenuation by Stimulated Emission of Radiation.
(C) Large Amplification by Stimulated Emission of Radiation.
(D) Light Amplification by Slowed Emission of Radiation.
- In a uniform circular motion :
(A) Velocity is constant (B) Distance is constant
(C) Displacement is constant (D) Speed is constant
- The process of deliberate addition of desirable impurity in an intrinsic semiconductor is :
(A) Doping (B) Bonding (C) Diffusion (D) Sublimation
- In 1921 Albert Einstein was awarded Nobel Prize in the study of :
(A) Black body Radiation (B) Photoelectric effect
(C) Mass-Energy Relation (D) Atom model

9. Henry is the unit of :
(A) Capacitance (B) Resistance (C) Inductance (D) Reactance
10. The superposition of a low frequency message signal on a high frequency carrier wave is called :
(A) Amplification (B) Modulation (C) Attenuation (D) Demodulation
11. A quantum mechanical theory for explaining superconductivity is :
(A) KC Rule (B) BCS theory (C) KV Rule (D) NMR theory
12. Which experiment proved the particle nature of light ?
(A) Interference (B) Diffraction (C) Compton effect (D) Polarisation
13. A magnet dropped through an aluminium pipe takes more time than through a PVC pipe of same dimension to reach the bottom. This is due to :
(A) Electrostatic shielding (B) Electromagnetic damping
(C) Electromagnetic radiation (D) Convection
14. The principle which helps in explaining blood flow and heart attack in artery :
(A) Torricelli's Law (B) Hooke's Law
(C) Bernoulli's Principle (D) Snell's Law
15. Which of the following substances has more specific heat capacity ?
(A) Carbon (B) Copper (C) Water (D) Silver
16. In an isothermal process :
(A) Heat Constant (B) Volume Constant
(C) Pressure Constant (D) Temperature Constant
17. The cell used in Appollo Space Programme :
(A) Dry Cell (B) Mercury Cell
(C) Nickel-Cadmium Cell (D) Fuel Cell

18. The element which have positive Electron gain Enthalpy :
 (A) H (B) Cl (C) Ne (D) Na
19. Bond order of oxygen molecule :
 (A) 2 (B) 3 (C) 1 (D) 0
20. Which of the following orbital is **not** possible ?
 (A) 2s (B) 3p (C) 2d (D) 4d
21. The unit of rate constant for a first order reaction :
 (A) mol l sec^{-1} (B) $\text{mol l}^{-1} \text{sec}^{-1}$ (C) $\text{mol}^{-1} \text{l sec}^{-1}$ (D) sec^{-1}
22. Zig-Zag movement of colloidal particle is called :
 (A) Tyndall Effect (B) Brownian movement
 (C) Electrophoresis (D) Peptization
23. The Geometry of CH_4 molecule :
 (A) Square Planar (B) Octahedral
 (C) Tetrahedral (D) Trigonal Bipyramid
24. Ideal gas Equation is :
 (A) $P = nRT$ (B) $P_1V_1 = P_2V_2$ (C) $PV = nRT$ (D) $\frac{V_1}{T_1} = \frac{V_2}{T_2}$
25. The condition for a thermodynamic process to be adiabatic :
 (A) $q = 0$ (B) $\Delta T = 0$ (C) $\Delta V = 0$ (D) $W = 0$
26. pH of pure water :
 (A) 0 (B) 7 (C) 12 (D) 5
27. The molecular formulae of an organic compound is C_2H_2 . The compound is an :
 (A) Alkane (B) Alkyne (C) Alkene (D) Aldehyde

28. Hybridisation in Alkane is :
(A) sp^2 (B) sp^3 (C) sp (D) sp^3d
29. The reaction used for the preparation of chlorobenzene from diazonium chloride is :
(A) Sandmayer's Reaction (B) Aldol Condensation
(C) Cannizzaro Reaction (D) Wurtz Reaction
30. The IUPAC name of Acetaldehyde is :
(A) Methanal (B) Propanal (C) Ethanol (D) Ethanal
31. Acid used for the coagulation of rubber latex commercially :
(A) Formic Acid (B) Acetic Acid (C) Citric Acid (D) Lactic Acid
32. Chemical substance used for relieving pain :
(A) Antiseptic (B) Tranquillizer (C) Antibiotic (D) Analgesics
33. The most abundant protein in the living world is _____ .
(A) Collagen (B) Rubisco (C) Glucagon (D) Myosin
34. Which among the following is known as pregnancy hormone ?
(A) Oestrogen (B) Testosterone (C) Aldosterone (D) Progesterone
35. Typhoid is caused by the bacterium _____ .
(A) Salmonella (B) Shigella (C) Klebsiella (D) Clostridium
36. The two cerebral hemispheres of brain in mammals are connected by _____ .
(A) Association areas (B) Corpus callosum
(C) Thalamus (D) Medulla
37. The polymerase chain reaction is helping for the synthesis of multiple copies of _____ .
(A) Deoxyribonucleic acid (B) Oxaloacetic acid
(C) Palmitic acid (D) Ribonucleic acid

38. What change occurs to the sixth amino acid of beta globin chain of sickle cell anaemic patients ?
(A) Valine to Glutamic acid (B) Leucine to Valine
(C) Glutamic acid to Valine (D) Valine to Leucine
39. _____ is an example for a gaseous plant growth regulator.
(A) Auxin (B) Cytokinin (C) Abscisic acid (D) Ethylene
40. Which of the following set of enzymes present in gastric juice ?
(A) Pepsin, Rennin and Amylase (B) Amylase, Pepsin and Lipase
(C) Pepsin, Rennin and Lipase (D) Lipase, Rennin and Amylase
41. Vitamin that is exclusively of animal origin is _____ .
(A) Vitamin B₁₂ (B) Vitamin B₁ (C) Vitamin B₆ (D) Vitamin B₂
42. Which of the following animal lack radial symmetry ?
(A) Physalia (B) Asterias (C) Cucumaria (D) Limulus
43. Pollination by wind is called _____ .
(A) Anemophily (B) Hydrophily (C) Zoophily (D) Entomophily
44. The cell organelle known as "power houses" of the cell :
(A) Ribosome (B) Mitochondria
(C) Endoplasmic reticulum (D) Lysosome
45. Plants growing in dry habitat are called _____ .
(A) Xerophytes (B) Lithophytes (C) Mesophytes (D) Crysophytes
46. The study of fossil is known as _____ .
(A) Osteology (B) Histology (C) Mycology (D) Palaentology

47. The loss of water in liquid form from the leaves of plants is _____ .
 (A) Transpiration (B) Guttation (C) Evaporation (D) Translocation
48. Which of the following set is the pyrimidines present in RNA ?
 (A) Uracil and Cytosine (B) Adenine and Uracil
 (C) Guanine and Uracil (D) Thymine and Uracil
49. The sum of the first 10 terms common to the series 17, 21, 25 and 16, 21, 26 is :
 (A) 1100 (B) 1010 (C) 1110 (D) 1200
50. The radius of the sphere through the points (4, 3, 0), (0, 4, 3), (0, 5, 0) and (4, 0, 3) is :
 (A) 5 (B) 7 (C) 4 (D) 6
51. The maximum value of $xy + 5$ subject to $2x + y = 4$ is :
 (A) 4 (B) 3 (C) 8 (D) 7
52. The number of solutions of $\sin 5x \cdot \cos 3x = \sin 9x \cdot \cos 7x$ in $\left[0, \frac{\pi}{2}\right]$ is :
 (A) 10 (B) 9 (C) 5 (D) 4
53. The equation of Hyperbola referred to its axes as axes of coordinate whose distance between the foci is 20 and eccentricity equals $\sqrt{2}$ is :
 (A) $x^2 - y^2 = 25$ (B) $x^2 - y^2 = 50$ (C) $x^2 - y^2 = 125$ (D) $x^2 - y^2 = 40$
54. If 3 distinct numbers are chosen randomly from the first 100 natural numbers, then the probability that all three of them are divisible by both 2 and 3 is :
 (A) $\frac{4}{1155}$ (B) $\frac{4}{1255}$ (C) $\frac{3}{1155}$ (D) $\frac{3}{1255}$
55. The number of triangles which can be formed by using the vertices of a regular polygon of $(n + 3)$ sides is 220. Then the value of n is :
 (A) 10 (B) 8 (C) 11 (D) 9

56. The distance between the parallel planes $3x + y + 3z = 8$ and $9x + 3y + 9z = 15$ is :
- (A) $\frac{5}{\sqrt{19}}$ (B) $\frac{7}{\sqrt{19}}$ (C) $\frac{3}{\sqrt{19}}$ (D) $\frac{9}{\sqrt{19}}$
57. The digit at the unit place in the number $19^{2005} + 11^{2005} - 9^{2005}$ is :
- (A) 3 (B) 0 (C) 9 (D) 1
58. Mean deviation of the data 3, 10, 10, 4, 7, 10, 5, 7 from mean is :
- (A) 2 (B) 2.25 (C) 3 (D) 3.25
59. The area bounded by the curve $y = |x| - 1$ and $y = -|x| + 1$ is :
- (A) 4 (B) $\sqrt{2}$ (C) 2 (D) $2\sqrt{2}$
60. A straight line parallel to the line $2x - y + 5 = 0$ is also a tangent to the curve $y^2 = 4x + 5$. Then the point of contact is :
- (A) (-1, 1) (B) (-1, 2) (C) (2, 1) (D) (1, 3)
61. The number of 4 digit even numbers that can be formed using 0, 1, 2, 3, 4, 5, 6 without repetition is :
- (A) 420 (B) 300 (C) 120 (D) 320
62. The number of terms in the expansion of $(a + b + c)^{10}$ is :
- (A) 11 (B) 55 (C) 66 (D) 44
63. If $a^2 + b^2 = 7ab$ then the value of $\log\left(\frac{a+b}{3}\right)$ is :
- (A) $\frac{1}{2}\log(a+b)$ (B) $\frac{1}{2}\log(ab)$ (C) $\frac{1}{2}\log\left(\frac{a}{b}\right)$ (D) $\frac{1}{2}\log\left(\frac{b}{a}\right)$

64. If a matrix A is Symmetric as well as Skew Symmetric, then :
(A) A is a diagonal matrix (B) A is a unit matrix
(C) A is a triangular matrix (D) A is a null matrix
65. Process of adding vitamins to milk is known as :
(A) Flavouring (B) Fortification (C) Fermentation (D) Sterilization
66. The minimum fat % required in ice-cream is :
(A) 10% (B) 9% (C) 8% (D) 15%
67. A method for destroying all pathogenic organism in milk for safely consumption for human.
(A) Standardization (B) Homogenization
(C) Coagulation (D) Pasteurization
68. Kerala Co-operative Milk Marketing Federation (KCMMF) was formed on :
(A) 1980 (B) 1985 (C) 1975 (D) 1970
69. _____ is a heat acid coagulated product.
(A) Lassi (B) Peda (C) Paneer (D) Khoa
70. _____ is used for determining the specific gravity of milk.
(A) Butyrometer (B) Thermometer (C) Barometer (D) Lactometer
71. Headquarters of National Dairy Research Institute (NDRI) is at _____ .
(A) Karnal (B) Bangalore (C) Delhi (D) Hyderabad
72. According to FSSAI rule butter should contain a minimum of _____ % milk fat.
(A) 50% (B) 80% (C) 99% (D) 90%

73. Milk letdown hormone is _____ .
(A) Oestrogen (B) Progesterone (C) Oxytocin (D) Prolactin
74. Name a compound that can be used both detergent and sanitizer in a dairy plant.
(A) Chlorine (B) Sodium chloride
(C) Carbonate (D) Iodophore
75. Optimum dry period needed for dairy animal is _____ days.
(A) 70 days (B) 80 days (C) 60 days (D) 50 days
76. Adulteration of milk with starch can be detected by _____ Test.
(A) Platform Test (B) Alcohol Test (C) Reduction Test (D) Iodine Test
77. Name the milk sugar :
(A) Lactose (B) Sucrose (C) Raffinose (D) Fructose
78. Largest Milk producing country in the world :
(A) France (B) India (C) USA (D) Germany
79. Under the PFA rules, Toned milk should contain _____ % Fat and _____ % SNF.
(A) 3% Fat, 8.5% SNF (B) 1.5% Fat, 9% SNF
(C) 4% Fat, 9% SNF (D) 2% Fat, 7.5% SNF
80. The specific gravity of normal milk ranges from _____ .
(A) 1.0 (B) 1.05 - 1.08 (C) 1.028 - 1.032 (D) 1.042 - 1.045
81. Which part of the Indian Constitution contains the Directive Principles of State Policy ?
(A) Part : I (B) Part : IV (C) Part : VI (D) Part : VII

82. The Constituent Assembly formed the 'drafting committee' of Indian Constitution on :
(A) 29th August, 1947 (B) 29th October, 1947
(C) 29th August, 1948 (D) 29th October, 1948
83. Which schedule of Indian Constitution deals with the Anti-Defection Act ?
(A) Second (B) Fifth (C) Seventh (D) Tenth
84. Section 15(1) of the Right to Information Act of 2005 refers to :
(A) Time limit for the supply of information
(B) Formation of State Information Commission
(C) Designation of Public Information Officer
(D) All of the above
85. Which reform movement was started by Pandit K.P. Karuppan at Thevara in Ernakulam District ?
(A) Vala Samudaya Parishkarani Sabha
(B) Vala Seva Samithi
(C) Araya Samajam
(D) Cochin Pulaya Sabha
86. Who started an English School at Mattancherry in 1818 with the financial aid of the Cochin government ?
(A) W.T. Ringletaube (B) Col. Munro
(C) Rev. Mead (D) Rev. J. Dawson
87. 'Kozhanchery Speech' is related with which of the following movements ?
(A) Electricity Agitation (B) Abstention Movement
(C) Punnapra-Vayalar Upheaval (D) Vaikom Sathyagraha
88. Who was the founder of the newspaper 'Kerala Kaumudi' ?
(A) K. Ayyappan (B) Kumaran Asan (C) K. Sukumaran (D) C.V. Kunjiraman

89. Who was hailed by Gandhiji as 'Jhansi Rani of Travancore' ?
(A) Accamma Cheriyan (B) Anna Chandy
(C) A.V. Kuttimalu Amma (D) Lalitha Prabhu
90. The social reformer who served as a member of both Kochi and Tiru-Kochi Ministries ?
(A) C. Kesavan (B) Mannathu Padmanabhan
(C) Sahodaran Ayyappan (D) T.K. Madhavan
91. Which scheme aims to distribute LED bulbs to all electrified houses in India ?
(A) KIRAN (B) UJALA (C) RASMI (D) LED Revolution
92. The date on which the National Rural Employment Guarantee Programme was launched ?
(A) 2005 August 23 (B) 2005 August 25
(C) 2006 February 2 (D) 2006 October 2
93. Who is the author of the drama 'Gopuranatayil' ?
(A) M.T. Vasudevan Nair (B) Thoppil Bhasi
(C) N.N. Pillai (D) K. Damodaran
94. Which of the following train is running between Kolkata and Dhakka ?
(A) Thar Express (B) Maitree Express
(C) Samjhauta Express (D) All of the above
95. What is 'Durand line' ?
(A) Boundary line between Germany and Poland
(B) Boundary line between Pakistan and Afghanistan
(C) Boundary line between India and China
(D) Boundary line between Germany and France

96. Which Five Year Plan is known as Mahalanobis plan ?
(A) First Five Year Plan (B) Second Five Year Plan
(C) Third Five Year Plan (D) Fifth Five Year Plan
97. Which place is declared as the second capital of Himachal Pradesh ?
(A) Shimla (B) Mandi (C) Manali (D) Dharamsala
98. Who was the chief guest of the official ceremony in the Republic Day in 2017 ?
(A) President of Indonesia (B) King of Qatar
(C) President of France (D) Crown Prince of UAE
99. Which movie won the best film award in 47th Kerala state film awards ?
(A) Kammattipadam (B) Kadu Pookkunna Neram
(C) Manhole (D) Kamboji
100. What was the theme of 2017 National Girl Child Day ?
(A) Beti Bachao, Beti Padhao (B) A Girl is whole by all means
(C) End child marriage (D) "Little Girls are Heaven's Flowers"

- o o o -

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK