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Government of Puducherry
Directorate of School Education
Competitive Examination for Empanelment of Guest Lecturers-2019

QUESTION BOOKLET

ROLL NO:

SUBJECT: ZOOLOGY

Time: 2:00 Hours

Total Marks: 90

INSTRUCTIONS TO CANDIDATES

- 1) Write Roll Number in the space provided in this Question Booklet above.
- 2) The Candidate should check the question paper that question paper consists of all the pages and that it is not torn.
- 3) Please write the Roll No. etc., on the OMR sheet using Black Ball point pen only.
- 4) The candidate shall use only "**BLACK BALL POINT PEN**" for marking the answers.
- 5) There are **90 questions**. For every correct answer 1 (One) mark will be awarded and for each wrong answer 0.25 mark will be deducted.
- 6) Use of eraser/ whitener/ correction fluid is prohibited on OMR answer sheets.
- 7) Use of calculators, cell phones, logarithmic table, electronic gadgets etc., is strictly prohibited.
- 8) For any rough work, use the rough page given at the end of the Question Booklet.
- 9) The candidate has to deposit the original copy of OMR sheet along with the Hall Ticket after the completion of examination and may carry the duplicate OMR (impression) sheet for reference.
- 10) No candidate is allowed to leave the examination centre premises till the completion of the entire examination process.
- 11) Please avoid marking of answers on Question Booklet.
- 12) The questions in English version alone will be taken as authentic though questions are given in other languages for the convenience of the candidates.

ZOOLOGY

1. The third name in trinomial nomenclature is
(a) species (b) genus (c) sub species (d) sub genus
2. The number of pseudopodia present in the trophozoite of entamoeba histolytica is
(a) one (b) two (c) many (d) none
3. Stage of plasmodium infective to man and injected into human blood by mosquito is
(a) Trophozoite (b) Merozoite (c) Sporozoite (d) Cyst
4. Trypanosomiasis is a disease transmitted by
(a) Louse (b) May fly (c) Tsetse fly (d) Mosquito
5. Excretion in Taenia is by
(a) Nephridia (b) Flame cells (c) green glands (d) malpighian bodies
6. The first stage larva of Ascaris is
(a) miacidium (b) Filiform (c) Rhabditiform (d) Microfilaria
7. Balanoglossus is also called
(a) Tongue worm (b) Hook worm (c) Ship worm (d) silk worm
8. Ampioxas belongs to
(a) cephalochordata (b) urochordata (c) vertebrata (d) hemichordata
9. Heart of crocodile is
(a) three chambered (b) two chambered (c) single chambered (d) four chambered
10. Coenzymes FMN & FAD are derived from vitamin
(a) C (b) B₁ (c) B₂ (d) B₆
11. The germ theory of disease was postulated by
(a) Hippocrates (b) Pasteur & Koch (c) Edward Jenner (d) Lamark
12. Food poisoning is caused by
(a) Entamoeba histolytica (b) Clostridium botulinum (c) Escherichia coli (d) corynebacterium diphtheriae
13. The animals most frequently infected with anthrax are
(a) sheep (b) cattle (c) goats (d) all of these
14. The worker honey bee normally lives for about
(a) 10 days (b) 15 days (c) 30 days (d) 90 days
15. Which of the following insects is the vector for bubonic plague
(a) Cimex (b) pediculus (c) xenopsylla (d) phlebotomus
16. Which of the following fishes is not conducive to composite fish farming
(a) catla catla (b) labeo rohita (c) cirrbinus mrigala (d) mystus seenghala
17. Which is a Fungicide
(a) 2, 4-D (b) DDT (c) BHC (d) Bordeaux mixture
18. DNA fingerprinting technique was first developed by
(a) Boysen and Jensen (b) Edward and Steptoe
(c) Scheiden and Schwann (d) Jeffreys, Wilson and Thien
19. The technique of DNA fingerprinting relies on
(a) repetitive DNA (b) mini satellite DNA (c) both a and b (d) none of these

20. Of the total number of genes estimated in human genome, nearly 10 percent are contained in
 (a) chromosome 11 (b) chromosome 21 (c) Y chromosome (d) chromosome 1
21. Cell recognition and adhesion occur due to biochemical of cell membrane named
 (a) proteins (b) lipids (c) proteins and lipids (d) glycoproteins & glycolipids
22. In mitochondria cristae act as sites for
 (a) protein synthesis (b) oxidation reduction reactions
 (c) breakdown of macromolecules (d) phosphorylation of flaroproteins
23. Which one takes part in acrosome synthesis
 (a) nucleus (b) mitochondria (c) lysosomes (d) golgi apparatus
24. One turn of helix in a B form DNA is approximately
 (a) 20 nm (b) 0.34 nm (c) 3.4 nm (d) 2 nm
25. mRNA is synthesized on DNA template in which direction
 (a) 5' → 3' (b) 3' → 5' (c) both a and b (d) any of these
26. Which one of the following serves as a stop codon
 (a) UAG (b) AGA (c) AUG (d) GCG
27. Point mutation involves
 (a) deletion (b) insertion (c) change in single base pair (d) duplication
28. There are three genes a, b and c. percentage of crossing over between a and b is 20 and b and c is 28 and a and c is 8. What is sequence of genes on the chromosome
 (a) b, a, c (b) a, b, c (c) a, c, b (d) none of these
29. The exchange of one part of chromosome to the other part another chromosome is
 (a) linkage (b) inversion (c) mutation (d) translocation
30. The allele which is unable to express its effect in the presence of another is called
 (a) recessive (b) supplementary (c) codominant (d) complementray
31. Any change during cell division that results in loss or gain of one or more chromosomes is known as
 (a) aneuploidy (b) euploidy (c) monoploidy (d) hypoploidy
32. Which of the following phenomena leads to variation in DNA
 (a) linkage, mutation (b) recombination, linkage (c) mutation, recombination (d) aneuploidy, linkage
33. Which of the following shows transmission from carrier female to male progeny
 (a) autosomal dominant (b) x-linked recessive (c) y linked recessive (d) x-linked dominant
34. The two polypeptides of human insulin are linked together by
 (a) disnlphide bridges (b) hydrogen bonds (c) phosphodiester bonds (d) covalent bond
35. Commonly used vectors for human genome sequencing are
 (a) T-DNA (b) BAC & YAC (c) expression vectors (d) T/A cloning vectors
36. The first human hormone produced by recombinant DNA technology is
 (a) insulin (b) estrogen (c) thyroxin (d) progesterone
37. DNA or RNA segment tagged with a radioactive molecule is called
 (a) plasmid (b) vector (c) probe hetogon (d) clone
38. Pure line breed refers to
 (a) homozygosity (b) heterozygosity only (c) hetrozygosity & linkage (d) independent assortment
39. Phasmina is obtained from a variety of

- (a) sheep (b) goat (c) yak (d) rabbit
40. National dairy research institute is situated in
 (a) lucknow (b) patna (c) karnal (d) ludhiana
41. Antibodies that help to fight infections agents are
 (a) polysaccharides (b) amino acids (c) proteins (d) glucose
42. Tick mark the false statement
 (a) artificial silk is a polysaccharide (b) natural silk is protein
 (c) collagen form intercellular ground (d) hydrogenation
43. Unsaturated fats are made saturated by
 (a) polymerization (b) dehydrogenation (c) hybridization (d) hydrogenation
44. Enzymes work at optimum temperature over a range of 0 – 40°C. what would happen to the rate of enzyme controlled reactions for every 10°C rise in temperature
 (a) the rate doubles itself (b) decreases by half
 (c) no effect (d) first increases then decreases
45. When each tooth is embedded in a socket of jaw bone, then this type of attachment is called
 (a) thecodont (b) lophodont (c) secodont (d) solenodont
46. Whartons duct is associated with
 (a) brunners gland (b) sublingual salivary gland
 (c) submaxillary salivary gland (d) parotid salivary gland
47. Opening of hepatopancreatic duct into the duodenum is guarded by
 (a) pyloric sphincter (b) sphincter of boydon
 (c) sphincter of oddi (d) cardiac sphincter
48. Ileum is characterized by the presence of
 (a) brunners gland and villi (b) brunners glands and peyers patches
 (c) peyers patchers and villi (d) brunners glands and taeniae of coli
49. The foxic substances in the diet are detoxified in human body by
 (a) liver (b) kidney (c) lungs (d) stomach
50. Choose the correct answer, gastric juice contains
 (a) pepsin, rennin, lipase (b) trypsin, rennin, pepsin
 (c) pepsin, rennin, amylase (d) pepsin, lipase, trypsin
51. CO₂ is carries in the blood mainly as
 (a) sodium bicarbonate (b) potassium bicarbonate
 (c) carbamino haemoglobin (d) dissolved gas in plasma
52. Blue baby syndrome results from
 (a) excess of total dissolved solids (b) excess of chloride
 (c) methamoglobin (d) excess of dissolved oxygen
53. In mature mammalian erythrocytes, the respiration is
 (a) aerobic (b) anaerobic (c) sometimes aerobic and sometimes anaerobic (d) absent
54. Human heart is
 (a) myogenic (b) neurogenic (c) venous (d) both a and b
55. Human heart is derived from
 (a) ectoderm (b) mesoderm (c) endoderm (d) both a and c

56. The monomeric protein which polymerises to form myosin is
 (a) actin (b) meromyosin (c) tropomyosin (d) troponin
57. One of the following ions is essential for muscle contraction
 (a) Na^+ , Ca^{++} (b) Mg^{++} , Ca^+ (c) Mg^{++} , K^+ (d) K^+ , Na^+
58. Cori cycle involves
 (a) liver (b) muscles (c) liver and muscles (d) none of these
59. Low Ca^{++} in the body fluid may be cause of
 (a) gout (b) tetany (c) anaemia (d) angina pectoris
60. Which of the following is not applicable to red muscle fibres when compared to white muscle fibers
 (a) sustained contraction for long periods (b) rich in myoglobin
 (c) faster in contraction rate (d) rich in mitochondria
61. Proximal convoluted tubule is highly specialized for re-absorption of substances. It is lined by
 (a) simple squamous epithelium (b) simple columnar epithelium
 (c) simple cuboidal without microvilli (d) simple cuboidal with microvilli
62. Chemically glomerular filtrate is similar to blood plasma, except
 (a) urea (b) glucose (c) proteins (d) electrolytes
63. A fall in GFR can activate the JG cells to release ___ which can stimulate glomerular blood flow and thereby the GFR back to normal
 (a) renin (b) angiotensin II (c) rennin (d) erythropoietin
64. Dialysis fluid contains all the constituents as in plasma, except
 (a) glucose (b) NaCl (c) amino acid (d) urea
65. In case of dehydration, secretion of all hormones increases except one
 (a) renin (b) aldosterone (c) vasopressin (d) ANF
66. Cornea transplantation is specially successful because
 (a) simple technique (b) preservation of cornea easy
 (c) cornea has no relation with blood circulation and immunization (d) cornea is available easily
67. Mark the largest ear ossicle in case of human ear
 (a) malleus (b) incus (c) stapes (d) columella auris
68. The roof of scala media is called
 (a) reissner's membrane (b) basilar membrane (c) tectorial membrane (d) organ of corti
69. The corpuscles lying deep in dermis and responsible for deep pressure are known as
 (a) pacinian corpuscles (b) meissner's corpuscles (c) merkel's disc (d) ruffini's endings
70. Injury localized to the hypothalamus would most likely disrupt
 (a) short term memory (b) coordination during locomotion
 (c) executive functions such as decision making (d) regulation of body temperature
71. Which of the following is the hormone secreted by zona fasciculata
 (a) aldosterone (b) cortisol (c) androstenedione (d) mineralocorticoids
72. Which of the following hormones is/are responsible for maintaining corpus luteum
 (a) LH (b) estrogen (c) hCG (d) 1 & 3
73. Cretinism can be prevented or cured by the administration of

- (a) renin (b) aldosterone (c) glucagon (d) thyroxine
74. The 24 hour (diurnal) rhythm of our body such as the sleep wake cycle is regulated by the hormone
(a) adrenaline (b) melatonin (c) calcitonin (d) prolactin
75. High pitch juvenile voice in males can be retained by
(a) ovariectomy (b) castration (c) synorchidism (d) eunuchoidism
76. Which of the following pheromones is involved in sexual reproduction in silk moth?
(a) ciretone (b) bombykol (c) ecdysone (d) vilikinin
77. Egg is liberated from ovary and enters the fallopian tube in
(a) secondary oocyte stage (b) primary oocyte stage
(c) oogonial stage (d) mature ovum stage
78. Withdrawal of which hormone is the immediate cause of menstruation
(a) estrogen (b) FSH (c) FSH-LH (d) progesterone
79. Human placenta is
(a) chorionic, discoidal, epitheliochorial, deciduate
(b) deciduate, hemochorial, diffuse, allantochorionic
(c) hemochorial, metadiscoidal, deciduate, chorionic
(d) non-deciduate, discoidal, chorionic, hemoendothelial
80. During regeneration, the following takes place
A. cell division B. dedifferentiation C. cell movement D. tissue differentiation
(a) B, A, C, D (b) A, B, C, D (c) A, C, B, D (d) C, B, A, D
81. Antibodies in our body are produced by
(a) monocytes (b) RBCs (c) B-lymphocytes (d) T-lymphocytes
82. The active molecule that helps to initiate inflammatory response when mast cell degenerates is
(a) insulin (b) heparin (c) perforin (d) histamine
83. Short lived immunity acquired from mother to foetus across placenta or through mothers milk to infant is categorized as
(a) active immunity (b) passive immunity (c) cellular immunity (d) innate nonspecific immunity
84. An autoimmune disease in which the body destroys the thyroid gland is
(a) cretinism (b) myxedema (c) simmonds disease (d) hashimotos disease
85. Traceless terrestrial biomes of cold climate is
(a) taiga (b) tundra (c) saranna (d) none of these
86. The upright pyramid of number is absent in
(a) lake (b) pond (c) forest (d) grassland
87. Which one of the following is not included under *in situ* conservation
(a) sanctuary (b) national park (c) botanical gardens (d) biosphere reserve
88. The classical example of adaptive radiation in development of new species is
(a) Darwins Finches (b) Marsupials of Australia (c) both of these (d) none of these
89. The most accepted and recent theory of organic evolution is
(a) lamarkism (b) darwinism (c) theory of isolation (d) synthetic theory
90. Genetic drift operates in
(a) large isolated population (b) small isolated population
(c) fast reproductive population (d) slow reproductive population