



## SURYA TRB COACHING CENTRE, MADURAI

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Exclusively for Zoology

(The No.1 Institute for Zoology In TN)

Cell: 8124602428, 9443564713, 7598302428

PG TRB EXAM 2018 - ZOOLOGY



(UNIT - I to X)

### PG ZOOLOGY MODEL TEST - V

1. Intermediate host of *Leishmania* is
 

A) <i>Phlebotomus</i> (sandfly)	B) Tse-tse fly
C) Mosquito	D) House fly
2. Cercaria is seen in the life cycle of
 

A) <i>Taenia solium</i>	B) <i>Fasciola hepatica</i>
C) <i>Ascaris lumbricoides</i>	D) <i>Enterobius vermicularis</i>
3. The disease 'Kala azar' is caused by
 

A) <i>Entamoeba histolytica</i>	B) <i>Trypanosoma gambiense</i>
C) <i>Leishmania donovani</i>	D) <i>Plasmodium vivax</i>
4. Type of coelom seen in ascaris is
 

A) Schizocoel	B) Acoelom
C) Pseudocoel	D) Enterocoel
5. The infective stage of *Entamoeba histolytica* is
 

A) Mature cyst	B) Trophic form
C) Sporozoite	D) Minuta form
6. In urochordates respiration occurs through
 

A) Test and gill slits	B) Test
C) Gill slits	D) Branchial basket
7. Melanocytes are located in?
 

A) Stratum corneum	B) Stratum germinativum
C) Stratum lucidum	D) Dermis
8. The rearing of single species of fish is called
 

A) Monosex culture	B) Mono culture
C) Poly culture	D) Integrated fish culture
9. Consider the following stages
 

i) zygote	ii) Ookinete	iii) Oocyst	iv) Sporozoite
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In the life history of malarial parasite, the correct sequence of these stages in the mosquito host is

A) ii, i, iii, iv	B) i, iii, iv, ii	C) i, ii, iii, iv	D) ii, i, iv, iii
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10. The sites of first, second and third moulting of *Ascaris* larva are

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- A) Soil, lungs and intestine  
 B) Soil, stomach and lungs  
 C) liver, stomach and intestine  
 D) lungs, liver and intestine

**2017 PG Zoology தேர்வில் SURYA coaching - ன் சாதனைகள்**  
**தேர்வு செய்யப்பட்ட 180 பேரில் 71 பேர் தேர்ச்சி (39.4%)**

**GT = 31, BC = 17, MBC = 11, SC = 10, SCA = 2**

11. In which one of the following groups of animals do protonephridia function as excretory organs?
- A) Liver fluke, Amphioxus, *Taenia*  
 B) Liver fluke, *Ascaris*, Amphioxus  
 C) *Ascaris*, Nereis, Amphioxus  
 D) Amphioxus, nereis, Pheretima
12. Which one of the following is true for *Balanoglossus*? The development is
- A) direct with holoblastic cleavage  
 B) direct with meroblastic cleavage  
 C) Indirect with holoblastic cleavage  
 D) indirect with meroblastic cleavage
13. In krebs cycle, the following reaction are involved in the production of 15 ATP molecules by oxidation of food stuffs
1. Oxidation of pyruvic acid to acetyl co-A
  2. oxidation of alpha-ketoglutaric acid
  3. oxidation of isocitrate
  4. oxidation of malate
  5. oxidation of succinate
  6. conversion of succinyl coenzyme-A to succinic acid
- The correct sequence of these reaction is
- A) 1, 2, 4, 3, 5, 6  
 B) 1, 4, 3, 2, 5, 6  
 C) 1, 3, 2, 6, 5, 4  
 D) 1, 2, 4, 5, 3, 6
14. Which one of the following is a non-essential amino acid in the case of human beings?
- A) serine  
 B) histidine  
 C) Leucine  
 D) Arginine
15. Gaucher's disease is associated with
- A) Abnormal protein metabolism  
 B) Abnormal carbohydrate metabolism  
 C) Abnormal fat metabolism  
 D) Malnutrition
16. Which enzymes bring about cleavage of specific covalent bonds and removal of groups without hydrolysis?
- A) Lyases  
 B) Ligases  
 C) Hydrolases  
 D) Transferases

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17. Which of these inactivates an enzyme by changing enzyme shape?

- A) Allosteric inhibitor  
 B) Competitive inhibitor  
 C) Irreversible inhibitor  
 D) Multienzyme complex

## State Level Rank Achievement

### State Rank II to X = 31 candidates

(State II Rank = 3, State III = 2, State IV = 1, State V = 3, State VI = 2,  
 State VII = 7, State VIII = 4, State IX = 4, State X = 5,)

18. Which reference to enzymes, which one of the following statements is true?

- A) Apoenzyme = Holoenzyme + Coenzyme  
 B) Holoenzyme = Apoenzyme + Coenzyme  
 C) Coenzyme = Apoenzyme + Holoenzyme  
 D) Holoenzyme = Coenzyme - Apoenzyme

19. A protein is a sequence of amino acid, in which first and last amino acids are called respectively

- A) N-terminal and C-terminal amino acids  
 B) C-terminal and N-terminal amino acids  
 C)  $\alpha$  and  $\beta$ - amino acids  
 D)  $\beta$  and  $\alpha$ - amino acids

20. Which one of the following reactions is an example of oxidative decarboxylation?

- A) Conversion of succinate to fumarate  
 B) Conversion of fumarate to malate  
 C) Conversion of pyruvate to acetyl Co-A  
 D) Conversion of citrate to isocitrate

21. Which of the following is connecting link between glycolysis and kreb's cycle?

- A) Pyruvic acid  
 B) Isocitric acid  
 C) Acetyl Co-A  
 D) Phosphoglyceric acid

22. Redox potential is

- A) Oxidation  
 B) Reduction  
 C) Both A and B  
 D) None of these

23. Which of the following is present in cytochromes?

- A) Mo  
 B) Co  
 C) Cu  
 D) Mn

24. Data that possess numerical properties are known as

- A) Qualitative Data  
 B) Statistical Data  
 C) Quantitative Data  
 D) Collection of Data

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35. In which cell organelle nucleic acid is absent?

- A) Chloroplast  
B) Mitochondria  
C) Golgi apparatus  
D) Ribosome

### District First - 13 Candidates

Tirunelveli, Thoothukudi, Ramnad, Sivagangai, Virudhunagar, Theni,  
Madurai, Dindugal, Tirupur, Erode, Namakkal, Karur, Thanjavur.

36. The ribosomes are

- A) Negatively charged  
B) Positively charged  
C) Amphoteric  
D) None of the above

37. Which types of lysosomes contribute to the ageing process?

- A) Primary lysosomes  
B) Secondary lysosomes  
C) Autophagic vacuoles  
D) Residual bodies

38. Carbohydrate mainly found in cell membrane is

- A) Mucopolysaccharide  
B) Fucose  
C) Sialic acid  
D) Both (B) and (C)

39. For structure of nucleic acid, which of the following statements is wrong?

- A) DNA can be single stranded in some viruses  
B) RNA can be double-stranded occasionally  
C) There are as many as 12 bases per turn in Z-DNA  
D) The length of one helix is  $45\text{\AA}$  in B-DNA

40. Purines possess nitrogen at

- A) 1, 2, 4 and 6 positions  
B) 1, 3, 5 and 7 positions  
C) 1, 3, 7 and 9 positions  
D) 1, 2, 6 and 8 positions

41. In prokaryotes, the process of replication is catalysed by the following enzymes. Identify which the enzyme is best coordinate with the role

- A) Helicase - Joins the end of DNA segment  
B) DNA polymerase I - synthesises DNA  
C) DNA polymerase II - Erases primer and fills gaps  
D) Primase - synthesis RNA primers

42. Meselson and Stahl experiment on semiconservative replication demonstrates that

- A) 50% radioactive, 50% non-radioactive  
B) 50% non-radioactive  
C) 50% radioactive  
D) None of the above

43. The binding sites of tRNA with mRNA and amino acids are respectively

- A) DHU loop and CCA end  
B) CCA end and anticodon loop  
C) Anticodon loop and DHU loop  
D) anticodon loop and CCA end

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44. The precursor of eukaryotic mRNA is  
 A) tRNA  
 B) rRNA  
 C) snRNA  
 D) hnRNA
45. There are seven groups of autosomal chromosomes according to Denver (Colorado) convention, 1960. It is according to size of chromosomes and position of centromere, which group has acrocentric chromosome?  
 A) Group B  
 B) Group D  
 C) Group C  
 D) Group F
46. How many types of gametes are formed from a plant genotypes  $R_r Y_y$ ?  
 A) One  
 B) Two  
 C) Three  
 D) Four
47. Skin colour in man is an example of  
 A) Sex-linked inheritance  
 B) Multiple allelism  
 C) Pleiotropy  
 D) Polygenic inheritance
48. The movement of a gene from one linkage group to another is called  
 A) Inversion  
 B) Duplication  
 C) Translocation  
 D) Crossing over
49. Which one of the following information is essential to determine the genetic map distance between two genes located on the same chromosome?  
 A) Length of the chromosome  
 B) Number of genes present in the particular chromosomes  
 C) Number of nucleotides in the particular chromosomes  
 D) Percentage of crossing over or recombinant frequency between the two genes
50. Post-transcriptional modification in eukaryotes referred to as  
 A) Translation  
 B) Splicing  
 C) Sequencing  
 D) Restriction
51. Rous sarcoma virus contains  
 A) DNA  
 B) RNA  
 C) DNA/RNA  
 D) None of these

### District Second - 12 Candidates

Kanyakumari, Thoothukudi, Ramnad, Sivagangai, Viruthunagar, Dindugal,  
 Tirupur, Salem, Karur, Nagapattinam, Thanjavur, Villupuram.

52. Retroviruses and reverse transcriptase were discovered by  
 A) Sinsheimer  
 B) Stanley  
 C) Termin and Baltimore  
 D) Enders

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53. Ti- plasmid are present in

- A) Cymbidium  
B) Dendrobium  
C) Agrobacterium  
D) All of these

54. It shows complete linkage

- A) male culex  
B) male drosophila  
C) Female Drosophila  
D) Neurospora

55. Match the following

List - I

(Human hereditary condition)

- a) Alkaptonuria  
b) Huntington's chorea  
c) cretinism  
d) Tay-sachs disease

Codes      a      b      c      d

A)      3      4      2      1

C)      1      4      2      3

List - II

(enzyme last or deficient)

- 1)  $\beta$ -D-N cetyl hexosaminidase - A  
2) Gultamine acid decarboxylase  
3) Homogenetic acid oxidase  
4) Iodotyrosine deiodinase

a      b      c      d

B)      3      2      4      1

D)      1      2      4      3

56. During transportation of  $\text{CO}_2$  when bicarbonate ions diffuses from RBC into plasma, the increased hydrogen ion concentration RBC is balanced by the entry of which substance from plasma into

- A) water  
B) oxygen  
C) Hydroxyl ions  
D) Chloride ions

57. The stage of Oirinitine cycle at which arginase enzyme is used

- A) Arginine - Ornithine  
B) Ornithine - Urea  
C) Ornithine - Citrulline  
D) Citrulline - Argino succinic acid

58. The cells involved in inflammatory reactions are

- A) Basophils  
B) Neutrophils  
C) Eosinophils  
D) Lymphocytes

59. The process of transmission of nerve impulse in invertebrates is

- A) Chemical  
B) Physico - chemical  
C) Physico - electrical  
D) Physical

60. Gastric digestion is most important for

- A) lipids  
B) proteins  
C) carbohydrates  
D) minerals

61. Which one of the following hormone regulate  $\text{Na}^+$  concentration in extracellular fluid?

- A) Aldosterone  
B) Cortisol  
C) Epinephrine  
D) Nor-epinephrine

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62. Although the cardiac muscle has a myogenic origin, yet its formation and condition by muscle fibres is changed by the action of
- A) nerve  
B) SA node  
C) Vagus nerve  
D) Neurons

## District Third - 9 Candidates

Tirunelveli, Ramnad, Virudhunagar, Madurai, Coimbatore,  
Erode, Trichy, Nagapattinam, Vellore.

63. CO<sub>2</sub> is transported via blood of lungs mostly.
- A) In the form of carbonic acid only.  
B) As carbamino haemoglobin and as carbonic acid  
C) Dissolved in blood plasma  
D) In combination with haemoglobin only.
64. Muscle of the Urinary bladder is
- A) Smooth muscle  
B) Striped muscle  
C) Skeletal muscle  
D) Cardiac muscle
65. Marine Birds excrete the excess salt through
- A) Salt absorbing cells  
B) Salt secretory cells of gills  
C) Nasal gland  
D) Kidney
66. Glial cells are an example of
- A) Epithelial cells  
B) Muscle cells  
C) Nervous tissue  
D) Connective tissue
67. Mammary glands are modified
- A) Sweat glands  
B) Ceruminous glands  
C) Glands of zeis  
D) Inguinal gland
68. Schwann cell is found around
- A) Axon  
B) Cyton  
C) Dentrte  
D) Dendron
69. Duodenum has characteristic Brunner's glands which secrete two hormones called
- A) Kinase,estrogen  
B) Secretin, Cholecystokinin  
C) Prolactin, Parathormone  
D) Estradion, Progesterone
70. The auditory ossicles transmit the sound induced vibrations of the ear drum to the
- A) Perilymph  
B) Endolymph  
C) Aqueous humour  
D) vitreous humour
71. Blastopore is
- A) The opening of neural tube  
B) Found in blastula  
C) Present at future anterior end of embryo  
D) The external opening of archenteron

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72. A tissue of the embryo transmits stimulus to influence another tissue of the embryo to produce a structure. The former is known as
- A) producer  
B) inductor or organizer  
C) promoter  
D) none of these
73. Match the following
- | List - I<br>(Type of placenta) | List - II<br>(Example) | Codes | a | b | c | d |
|--------------------------------|------------------------|-------|---|---|---|---|
| a) Epitheliochorial            | - 1) Dog               | A)    | 4 | 5 | 3 | 1 |
| b) syndesmochorial             | - 2) platypus          | B)    | 2 | 4 | 3 | 1 |
| c) Endotheliochorial           | - 3) Monkey            | C)    | 4 | 5 | 1 | 3 |
| d) Homochorial                 | - 4) Pig               | D)    | 2 | 4 | 1 | 3 |
|                                | - 5) Deer              |       |   |   |   |   |
74. The major protein involved in ageing is
- A) Kenatin  
B) elastin  
C) collagen  
D) actin and myosin
75. Graafian follicles are seen in this part of the ovary
- A) Cortex  
B) Medulla  
C) Hilus  
D) Mesovarium
76. When the first maturation division of the primary oocyte is incomplete, it is called
- A) Thelytoky  
B) Arrhenotoky  
C) Restitution  
D) Cytokinesis
77. Henson's node in part of the developing embryo of
- A) Hen  
B) Insect  
C) Rabbit  
D) Branchiostoma
78. Which of the following cells during gametogenesis is normally diploid?
- A) Primary polar body  
B) Spermatid  
C) Spermatogonia  
D) Secondary polar body
79. Natural killer lymphocytes are an example for
- A) physical barrier  
B) cytokine barrier  
C) cellular barrier  
D) physiological barrier
80. Glycoprotein 120 of HIV, have affinity with
- A) CD<sub>4</sub>  
B) CD<sub>8</sub>  
C) CD<sub>45</sub>  
D) CD<sub>24</sub>
81. The functional status of an animal is called
- A) Sere  
B) Community  
C) Niche  
D) Ecotone
82. Passive immunity is defined as immunity
- A) inherited from the parents  
B) achieved through vaccination

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Admission is  
Going on...

92. A Population will not exist in Hardy-Weinberg equilibrium if
- A) Individuals mate selectively      B) There are no mutations  
C) There is no migration              D) The population is large
93. Variation in gene frequencies within populations can occur by chance rather than by natural selection. This is referred to
- A) genetic flow                              B) genetic drift  
C) random mating                          D) genetic load
94. Any body or traces of body, animal or vegetable buried and preserved by natural causes is a
- A) Specimen                                  B) Fossil  
C) Fuel    D) None of these
95. Origin of new species and genera is
- A) Macro evolution                          B) micro evolution  
C) Mega evolution                              D) co-evolution
96. Regarding the origin of metazoan, Acoela was considered as the most primitive metazoan by
- A) Huxley    B) Garstrang  
C) Joan Hadzi                                      D) Bather
97. Mark the incorrect matching
- A) Homologous organs                      - Divergent evolution  
B) Analogous organs                        - Convergent evolution  
C) Adaptive convergence                   - Parallel evolution  
D) Homoplastic organs                      - Homologous organs
98. The first organic compound on primitive earth was
- A) Fatty acid and amino acids              B) Glucose and glycine  
C) Proteins and nucleic acids                D) only carbohydrates

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99. Hot spots occur in  
 A) Tamil Nadu and Andhra Pradesh      B) Western Ghats and Eastern Himalayas  
 C) Uttar Pradesh and Bihar              D) Madhya Pradesh and Orissa
100. Floating national park is situated in the state  
 A) Tamil Nadu                                  B) Kerala  
 C) Assam                                         D) Manipur
101. This is a phenomenon in which animals dormancy to escape from excessive cold during winter  
 A) Hibernation                                 B) Encystment  
 C) Aestivation                                 D) Diapause
102. "Ecotone" is best described as the  
 A) Transition between two or more diverse communities  
 B) maximum biomass an ecosystem can support  
 C) state of equilibrium among various trophic levels in an ecosystem  
 D) potentiality of an animal to adjust to new circumstances
103. Consider the following protected areas  
 1) Indravati                                      2) Melghat  
 3) Periyar                                         4) Valmiki
- Which of the above are the project tiger reserves in India?  
 A) 1 and 2                                         B) 1, 3 and 4  
 C) 2, 3, and 4                                 D) 1, 2, 3 and 4
104. Match                                         Codes :      a      b      c      d  
 a) Tetrasomy                                    1)  $2n-2$       A)      3      2      1      4  
 b) Trisomy                                        2)  $2n+1$       B)      3      4      1      2  
 c) Nullisomy                                    3)  $2n+2$       C)      4      3      1      2  
 d) Monosomy                                  4)  $2n-1$       D)      1      2      4      3
105. An Ecosystem comprising of producers, herbivores and carnivores is an incomplete ecosystem if it does not include  
 A) Top Carnivores                             B) decomposers  
 C) Secondary consumers                    D) Secondary and tertiary consumers
106. A renewable resource is  
 A) Fossil fuel                                     B) Metals  
 C) Both A and B                                D) Sunlight
107. A living connecting link which provides evidences for organic evolution is  
 A) Sphenodon between reptile and bird  
 B) Lung fishes between Pisces and reptile  
 C) Duck-billed platypus between reptiles and mammals  
 D) Archaeopteryx between reptile and bird

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108. Darwin called sudden changes in organisms as

- A) Sport
- B) mutation
- C) mutagen
- D) Games

109. Among the human ancestors the brain size was more than 1000 CC in

- A) *Homo erectus*
- B) *Homo habilis*
- C) *Homo neanderthalensis*
- D) *Ramapithecus*

110. Conservation of forests can be done by

- A) Social forestry programme
- B) Agro forestry programme
- C) Urban forestry programme
- D) All of the above



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