Seat No. ☐

M.Phil / Ph.D. Entrance Examination, September - 2022
ZOOLOGY
Sub. Code : 58793

Day and Date : Friday, 23 - 09 - 2022　　　　　**Total Marks : 100**
Time : 01.00 p.m. to 03.00 p.m.

Instructions :
1) All questions are compulsory.
2) Each question carries 2 marks.
3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
4) Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet.
5) Follow the instructions given on OMR Sheet.
6) Rough work shall be done on the sheet provided at the end of question paper.
7) Only non-programmable calculators are allowed.

1) Conclusions without any basis or value judgment are
   a) objectivity　　　　　b) specificity
   c) values　　　　　　　d) facts

2) Information analysis and critical evaluation is made in:
   a) survey　　　　　　　b) action research
   c) analytical research　　d) pilot study

3) A short summary of technical report is called as:
   a) article　　　　　　　b) research abstract
   c) publication　　　　　d) guide

4) Questions which seek information is called as:
   a) factual question　　　b) opinion questions
   c) hypothetical question　d) marginal question

P.T.O.

5) A member of population is called as:

   a)   element   b)   census

   c)   sample   d)   group

6) Assessing numbers or symbols to the categories or response are called:

   a)   editing   b)   coding

   c)   transcription   d)   tabulation

7) Research is

   a)   Searching again and again

   b)   Finding solution to any problem

   c)   Working in a scientific way to search for truth of any problem

   d)   None of the above

8) Which of the following is the first step in starting the research process?

   a)   Searching sources of information to locate problem.

   b)   Survey of related literature

   c)   Identification of problem

   d)   Searching for solutions to the problem

9) What is the aim of research in education?

   a)   Help in personal growth of an individual.

   b)   Help the candidate to become an eminent educationist.

   c)   Increase job opportunities of the individual.

   d)   Increase social status of the individual

10) In the process of conducting research 'Formulation of Hypothesis" is followed by

a) Statement of Objectives

b) Analysis of Data

c) Selection of Research Tools

d) Collection of Data

11) Which of the following best suit for 'Action Research'?

a) It is an applied research.

b) It is a quantity research.

c) It is a survey research.

d) It is a population research.

12) Which research refers to scientific study and research that seeks to solve practical problems?

a) Basic research

b) Applied research

c) Exploratory research

d) None of the above.

13) If researcher attempts to support a determination of the rule is _____ type of logical reasoning.

a) Deductive

b) Inductive

c) Abductive

d) None of above

14) Research regarding top down approach method finalization of theory in logic used at _____

a) Last in sequence

b) Initially in sequence

c) Middle in sequence

d) Nowhere in sequence

15) First modern intelligence test or I.Q was published by _____

a) Stork Flyne

b) Charls S. Macy

c) William Stern

d) Alfred Binet

16) For the calculation of Intelligence Quotient, or I.Q. _____ is consider in the form of ability in individual.

    a)   Social capacity   b)   Biological rhythm

    c)   Fantasy power   d)   Mental potential

17) Generally Intelligence Quotient, test can be used for _____

    a)   For diagnosis

    b)   for improving the learning process

    c)   For provision of guidance

    d)   All the above

18) Broad ability to reason, form concepts, and solve problems using unfamiliar information or novel procedures is called as _____

    a)   Fluid intelligence   b)   Crystallized intelligence

    c)   Both A and B   d)   None of the above

19) Fluorochromefluroscine emit _____

    a)   blue light   b)   green light

    c)   red light   d)   visible light

20) IgM is often _____

    a)   dimer   b)   monomer

    c)   pentamer   d)   tetramer

21) In the electron microscopy a technique in which the specimen is coated with gold palladium or platinum is called _____

    a)   Plating   b)   Shadow casting

    c)   Electro plating   d)   None of the above

22) The most commonly used radioisotope for radiolabeling antibodies is _____

   a) ^{14}N b) ^{125}I

   c) ^{126}I d) ^{14}C

23) In single radial diffusion concentration of antigen is equal to _____

   a)   Precipitin ring diameter

   b)   Square of precipitin ring diameter

   c)   Log of Precipitin ring diameter

   d)   Square of Log of Precipitin ring diameter

24) In the equation $T=I/I_0$, 100% value of T represents _____

   a)   Totally transparent substance   b)   Transparent substance

   c)   Opaque substance   d)   Totally opaque substance

25) Which of the following statements about the reactions of glycolysis is correct?

   a)   In glycolysis glucose-6-phosphate is split into glyceraldehyde-3 -phosphate and dihydroxyacetone phosphate.

   b)   In glycolysis fructose-1 :6-bisphosphate is split into glyceraldehyde-3-phosphate and dihydroxyacetone phosphate.

   c)   In glycolysis fructose-6-phosphate is split into glyceraldehyde-3 -phosphate and dihydroxyacetone phosphate.

   d)   In glycolysis glucose-6-phosphate is isomerized to fructose-1 :6-bisphosphate.

26) Which of the following statements about the TCA cycle is correct?

    a) Oxygen is used to oxidise the acetyl group carbons of acetyl-CoA in the TCA cycle.

    b) Oxygen is not used in the TCA cycle, so the cycle can occur in anaerobic conditions.

    c) 3 molecules of NADH and 1 molecule of $FADH_2$ are produced in one turn of the TCA cycle.

    d) The TCA cycle produces the water that is formed during the complete oxidation of glucose.

27) The first life on earth was:

    a) Cynobacteria   b) Chemohetrotrophs

    c) Autotrops   d) Photoautotrophs

28) Unit of evolution is:

    a) Population   b) Species

    c) Individuals   d) Sub-species

29) _____ amount of air present in anatomical dead space.

    a) 350m1   b) 150m1

    c) 500ml   d) 1000ml

30) About _____ of CO_2 transported in the form of Bicarbonate ions.

    a) 100%   b) 23%

    c) 07%   d) 70%

31) Pebrine disease in silkworm is caused by

    a)   Virus   b)   Fungi

    c)   Bacteria   d)   Protozoa

32) Presence of a live head louse on a dead body indicates

    a)   Death has occurred less than six days

    b)   Death has occurred less than ten days

    c)   Death has occurred less than fifteen days

    d)   Death has occurred less than twenty days

33) The auditory apparatus of grasshopper is present on

    a)   Head   b)   scutellum

    c)   Thorax   d)   abdomen

34) Cercaria are forked tailed in _____

    a)   *Fasciola hepatica*   b)   *Paragonimuswestermani*

    c)   *Schistosoma haematobium*   d)   All the above

35) The parasite that lives in vagina and Bartholin glands of females is

    a)   Enterobiusvermicularis   b)   Strengyloidesstercolaris

    c)   Trichomonas   d)   *Ancylostomadueodenalis*

36) People who move on bare foot are likely to get the infection of _____

    a)   *Ancylostomaduodenale*   b)   *Taeniasolium*

    c)   *Enterobiusvermicularis*   d)   *Wuchereriabancrofti*

37) Three polypeptide chains in chymotrypsin are held together by _____ disulphide bonds

    a)   Four   b)   Five

    c)   Three   d)   Two

38) For the determination of N terminal amino acid peptide is reacted with _____

    a)   Hydrazine   b)   Sangers reagent

    c)   Edman's reagent   d)   Dansyl chloride

39) For the determination of C terminal amino acid by hydrazinolysis _____

    a)   C terminal amino acid is converted into hydrazide

    b)   N terminal amino acid is converted into hydrazide

    c)   All amino acids are converted into hydrazides

    d)   All amino acids except C terminal amino acid are converted into hydrazides

40) HEPA filters need maintenance every _____ months

    a)   12 months   b)   6 months

    c)   2 months   d)   15 months

41) _____ gives better protection to culture and reagent

    a)   horizontal airflow   b)   vertical airflow

    c)   biosafety cabinet I   d)   all of these

42) _____ culture can be incubated in an ordinary incubator

   a)   closed   b)   open

   c)   both closed and open   d)   tissue

43) Height of students in a class is a _____ variable.

   a)   Discrete variable   b)   continuous variable

   c)   absolute variable   d)   Quantitative variable

44) Standard deviation is _____

   a)   the square root of variance

   b)   measured using the unit of the variable

   c)   measured using the squared unit of the variable

   d)   values generally comparable with the average value

45) If the average of a series of values is 10 and their variance is 4, then the coefficient of variation is

   a)   40%   b)   20%

   c)   80%   d)   10%

46) Richard Altmann, in 1890, established them as cell organelles and called them bioblasts and then term mitochondria was coined by _____ in 1898.

   a)   Leonor Michaelis   b)   Robert Brown

   c)   Carl Benda   d)   De Duve

47) The nuclear envelope consists of two lipid bilayer membranes, an inner nuclear membrane and an outer nuclear membrane, the space between the membranes is called the _____

a) Pronuclear space

b) Prenuclear space

c) Postnuclear space

d) Perinuclear space

48) The poisonous compound cynogenicglucocide is present in _____

a) Raw cassava

b) peanut

c) Cabbage

d) cotton seed meal

49) Molecular formula of immunoglobulin D (IgD) is _____

a) $\gamma_2\kappa_1$

b) $\varepsilon_1\kappa_2$

c) $\delta_2\kappa_2$

d) $\delta_1\kappa_1$

50) Which of the following heavy metal causing minimata disease?

a) Lead

b) Methyl mercury

c) Cadmium

d) Arsenic

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Rough Work

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