Seat
No.

M.Phil./Ph.D. Entrance Examination, August - 2018
ZOOLOGY

Day and Date : Friday, 10 - 08 - 2018   **Total Marks : 100**
Time : 4.00 p.m. to 6.00 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) A careful investigation or enquiry specially through search for new facts in any branch of knowledge is called_____
   A) Research
   B) Qualitative Research
   C) Empirical Research
   D) None of the above

2) _____ research includes surveys and fact finding enquiries of different kinds.
   A) Descriptive vs Analytical
   B) Applied vs Fundamental
   C) Both A and B
   D) Quantitative vs Qualitative

3) Quantitative research is based on measurement of _____
   A) Quantity
   B) Amount
   C) Quantity or Amount
   D) None of the above

4) _____ is way to systematically solve the research problems.
   A) Research methodology
   B) Research aptitude
   C) Scientific method
   D) Research process

P.T.O.

5) Scientific research is a _____ Procedure.
   A) Systematic and controlled   B) Systematic and uncontrolled
   C) Both A and B   D) None of the above

6) _____ studies deal with collecting data and testing hypothesis or answering questions concerning the current status of the subject of study.
   A) Descriptive research   B) Analytical research
   C) Systematic research   D) All the above

7) The term 'data processing error' refers to_____
   A) Activities or events related to the sampling process, e.g. non-response
   B) Faulty techniques of coding and managing data
   C) Problems with the implementation of the research process
   D) The unavoidable discrepancy between the sample and the population.

8) In the electron microscopy, a technique in which the specimen is coated with gold palladium or platinum is called as:
   A) Plating   B) Shadow casting
   C) Electro plating   D) All of the above

9) Commonly used radioisotope for radio labeling antibodies is:
   A) ^{14}N B) ^{125}I
   C) ^{126}I D) ^{14}C

10) Immunoprecipitation occurs, when_____.
    A) Antibody is in excess
    B) Antigen is in excess
    C) Insoluble antigen-antibody lattice is formed at equivalence point
    D) Antigen is less

11) Which of the following separation method is suited method for a protein sample with large differences in molecular mass_____
    A) Dialysis   B) Salting out process
    C) Density gradient centrifugation   D) Rate zonal centrifugation

12) The technique electrophoresis, for the separation of charged molecules was developed by_____
   A) Tswett
   B) Svedberg
   C) Tiselius
   D) Sanger

13) In electrophoresis, DNA will migrate towards_____
   A) Cathode or positive electrode
   B) Anode or negative electrode
   C) Cathode or negative electrode
   D) Anode or positive electrode

14) When a mass of data has been assembled, it becomes necessary for the researcher to arrange the same in some kind of concise and logical order the mechanism is called as_____
   A) Editing
   B) Formatting
   C) Tabulation
   D) Labeling

15) Central limit theorem is associated with_____
   A) Hypothesis
   B) Publication
   C) Sampling
   D) All the above

16) Important methods of factor analysis include_____
   A) The centroid method
   B) The principal components method
   C) The maximum likelihood method
   D) All the above

17) Processing and Analysis of data includes the applications of_____
   A) Measures of Filming
   B) Measures of Dispersion
   C) Measures of Printing
   D) Measures of Editing

18) Tools used for data collection_____
   A) Formulative research studies
   B) Exploratory research studies
   C) Hypothesis-testing research studies
   D) Diagnostic research studies

19) If the sampling is related to cell division then descriptive method applicable to the data is_____.
   A) Survey studies
   B) Growth studies
   C) Inter relationship studies.
   D) Formulating studies

20) Which one of these characteristics would you expect *not* to give high test-retest reliability?
   A) Religious beliefs   B) Intelligence
   C) Dyslexia   D) Attention

21) Complete the following statement. The better the internal reliability then:
   A) The lower the maximum correlation of that test with any other variable.
   B) The higher the correlation between that measure and other variables.
   C) The more likely the test is measuring what it is intended to measure.
   D) None of these

22) Cronbach's alpha reliability is:
   A) An average of all possible split-half reliabilities.
   B) The correlation of each item with the sum of the items.
   C) The correlation of half of the items with the total participants.
   D) None of these

23) Correlating between different versions of a test is known as what?
   A) Split-half reliability   B) Alternate forms reliability
   C) Objectivity   D) Test-retest reliability

24) A measure which is capable of differentiating between one group of participants from another group of participants on a particular construct may have good what?
   A) Discriminant validity
   B) Predictive validity
   C) Convergent validity
   D) Known-groups validity

25) Using different methods of collecting data, different sources of evidence, different tests and in some cases different interviewers, is known as what?
   A) Reliability   B) Convergent validity
   C) Triangulation   D) Transferability

26) If a person having AB blood group, it is existing in_____
   A) Codominance   B) Duplicating gene
   C) Incomplete dominance   D) Epistasis

27) The basis of genetic counseling is_____
   A) Linkage
   B) Mutation
   C) Environment
   D) Mendelism

28) The aggregation of all the genes and their alleles in an inbreeding population is called_____
   A) Population pool
   B) Gene pool
   C) Genetic drift
   D) Genetic population

29) Percentage of _____ gas is maximum in unpolluted dry air.
   A) Nitrogen
   B) Oxygen
   C) Carbon dioxide
   D) Argon

30) In hydrosere phytoplankton stage is replaced by_____.
   A) Pioneer stage
   B) Climax stage
   C) Rooted submerged stage
   D) Reed swamp stage

31) Predation is the type of interaction where_____.
   A) Both the partners killed
   B) One partner kills and devours other
   C) One partner benefited at the expense of the other
   D) No partner is affected

32) The most important morphological character in taxonomy is:
   A) Genitalia
   B) Antennae
   C) Wings
   D) Chaetotaxy

33) The term 'Biodiversity' was coined by_____
   A) W.G. Rosen
   B) E.O.Wilson
   C) K.J. Gaston
   D) J.I. Spicer

34) Labour pains are caused due to:
   A) Prolactin
   B) Oxytocin
   C) Thyroid
   D) Adrenalin

35) Which of the following is largest endocrine gland?
   A) Thyroid   B) Parathyroid
   C) Pancreas   D) Adrenal

36) In DNA molecule_____mathematical equation is found correct.
   A) Nucleoside=Deoxyribose+Nitrogenous base
   B) Nucleoside=Deoxyribose+hydroxyl molecule+phosphate
   C) Nucleotide=Deoxyribose+Pyrimidines+Hydrogen
   D) Nucleotide=Deoxyribose+Nitrogenous base+phosphate

37) Glucosamine is_____
   A) Glycosides   B) Amino sugar
   C) Sugar phosphate   D) None of above

38) Which is the best suiting species for bee culture?
   A) *Apisdorsata*   B) *Apisflorea*
   C) *Apisindica*   D) *Milipona sp.*

39) The grasshopper possesses:
   A) Natatorial legs   B) Foragiallegs
   C) Saltatorial legs   D) Ambulatorial legs

40) Which of the following theory of anitbody production is most widely accepted?
   A) Side chain theory   B) Clonal selection theory
   C) Direct template theory   D) Indirect template theory

41) In the Analysis of Variance procedure (ANOVA), *factor* refers to_____
   A) The dependent variable   B) The independent variable
   C) Different levels of treatment D) The critical value of F

42) Two intermediate hosts are required for completing the life cycle in_____
   A) *Taeniasolium*   B) *Fasciola hepatica*
   C) *Wuchereriabancrofti*   D) *Diphyllobothriumlatum*

43) The vector of "infantile paralysis" in horses is
   A) Horse fly   B) Stable fly
   C) Warble fly   D) Horse Ked

44) The largest and most pathogenic cestode to mankind is
   A) *Taeniasolium*
   B) *Taeniasaginata*
   C) *Dibothriocephalus latus*
   D) *Echinococcusgranulosus*

45) The forces that are involved in maintaining the secondary structure of proteins/ enzymes are_____
   A) Hydrogen bonds
   B) Electrostatic forces
   C) Van der Waals forces
   D) Hydrophobic forces

46) The region which contains the binding and catalytic sites is termed as_____of enzyme.
   A) Active site
   B) Allosteric site
   C) Inhibitor
   D) Activator site

47) C-terminal amino acid of the protein chain may be identified by the use of_____
   A) Hydrazine
   B) Sangers reagent
   C) Edman's reagent
   D) Dansyl chloride

48) The haemocytometer is flat thick slide with_____deep chambers.
   A) 0.2 mm
   B) 0.1 mm
   C) 0.01 mm
   D) 0.1 cm

49) In an inverted phase contrast microscope, the light source and the condenser are at the top and objective are below the stage because_____
   A) This arrangement give ample space for the observation of all sizes of culture
   B) Gives better resolution
   C) Gives better view of cells
   D) Magnification of microscope increases

50) HEPA filters do not allows particles over the size of_____
   A) 0.4 to 0.6 µm
   B) 0.1 to 0.2 µm
   C) 0.2 to 0.4 µm
   D) 0.2 µm

✠   ✠   ✠

Rough Work