M. Sc. ZOOLOGY
SEMESTER - I
TAXONOMY & SYSTEMATICS AND BIOSTATISTICS
MSZ – 101

Duration: 3 Hrs.

Marks: 70

Part : B (Descriptive) = 50

[PART-B : Descriptive]

Duration: 2 Hrs. 40 Mins.

Marks: 50

[Answer question no. One (1) & any four (4) from the rest]

1. What do you mean by ICZN? Describe briefly the rules of nomenclature.   5+5=10

2. What is chemotaxonomy? What are the limitations of chemotaxonomy? Describe how chromatography is applied in chemotaxonmy.   2+2+6=10

3. Write the meaning of Numerical Taxonomy with Principles. Describe the merits, demerits and application of Numerical Taxonomy.   5+5=10

4. Write about biological species concept. What are the difficulties in the application of biological species concept?   5+5=10

5 Differentiate between (any two)   5+5=10

a. Parapatric and peripatric species

b. Cryptic and sibling species

c. Allopatric and sympatric species

6. Explain how collected specimens are identified with special emphasis on taxonomic keys and their various styles.   5+5=10

7. Find the correlation between age & blood pressure. Find the regression equation. What is the predicted blood pressure for a man aging 25 years?   10

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[PART-A : Objective]

<u>Choose the correct answer from the following :</u>   **1×20=20**

1. Taxonomy dealing with various biological aspects of taxa, ranging from the analysis of intraspecific variations ecotypes, polymorphism, etc to studies of speciation and evolutionary rates are known as
    a. Alpha taxonomy
    b. Beta taxonomy
    c. Gamma taxonomy
    d. None of the above

2. De Historia Plantarium was written by
    a. Theophrastus
    b. Caesalpino
    c. Cuvier
    d. Linnaeus

3. Chromosomal characters are used in
    a. Chemotaxonomy
    b. Cytotaxonomy
    c. Numerical taxonomy
    d. Molecular taxonomy

4. Occurence of toxins is used as tools in
    a. Chemotaxonomy
    b. Cytotaxonomy
    c. Numerical taxonomy
    d. Molecular taxonomy

5. Biochemical studies are possible
    a. Only in the organisms which exist today on the planet earth
    b. Only in the micro-organism
    c. Only in the fossils record
    d. All the above

6. Which of the following techniques is used for routine molecular taxonomy
    a. Chromosome number
    b. Biochemical analysis
    c. DNA Sequencing
    d. All the above

7. A species name in zoology when derived from the personal name of women ends with
   a. Orun
   b. Ae
   c. Arum
   d. Ensis

8. International code of zoological nomenclature was adapted in
   a. 1951   c. 1971
   b. 1901   d. 1891

9. A series of contiguous populations in which character changes gradually forms a

   a. deme   c. Race
   b. variety   d. Cline

10. Which among the following is not recognized in the taxonomic hierarchy?

    a. Cline   c. Variety
    b. Race   d. All

11. Which of the following never overlap in their distribution?

    a. Allopatric species
    b. Sympatric species
    c. Peripatric species
    d. Cryptic species

12. When in a species, a few individuals colonize a new habitat, establishing a new population away from the parent population, it is called as

    a. Allopatric species
    b. Sympatric species
    c. Peripatric species
    d. Parapatric species

13. Two populations, A and B, can be designated as two distinct species if they are
    a. Morphologically dissimilar
    b. Geographically isolated
    c. Reproductively isolated
    d. Morphologically and anatomically dissimilar

14. Simple correlation Coefficient (r) is also called:
    a. Pearson"s Correlation &Product moment Correlation Coefficient
    b. Spearman Correlation Coefficient
    c. Both a & b
    d. None of these

15. Chi Square Test reveals
    a. Association
    b. Goodness of Fit
    c. Independence of attributes
    d. Both b& c

16. Pitfall traps are employed to capture

    a. Invertebrates
    b. Amphibia
    c. Reptilia
    d. All of these

17. Bird skins prepared by removing all bones , bills and legs is known as

    a. ROM
    b. Shmoo
    c. Catapult.
    a. Flat skin

18. Two populations, A and B, can be designated as two distinct species if they are

    a. Morphologically dissimilar
    b. Geographically isolated
    c. Reproductively isolated
    d. Morphologically and anatomically dissimilar

19. Kruskal Wallis Test is also known as
    a. Mann Whitney U-test
    b. One Way ANOVA
    c. Z test
    d. None of these

20. Regression analysis calculates the
    a. Goodness of fit
    b. Best fit
    c. Independence of attributes
    d. None of these

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