

B.SC. ZOOLOGY
SEMESTER-3RD
BIOSYSTEMATICS, TAXONOMY AND BIostatISTICS
BSZ-301

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. Write short notes on (any two) 5+5=10
 - a. Alpha, Beta and Gamma taxonomy
 - b. Contribution of Systematics to Theoretical Biology
 - c. Pitfall Traps
 - d. Deme

2. What is Chemotaxonomy? What are the different tools of chemotaxonomy? Describe how electrophoresis is applied in Chemotaxonomy. 2+3+5=10

3. Describe Cytotaxonomy with suitable example. What are the utility and limitations of cytotaxonomy? 4+3+3=10

4. What are the types of keys used in classification? Illustrate the keys with suitable examples. 2+8=10

5. Discuss the salient features of International Code of Zoological nomenclature. 2+8=10

6. What is the need and importance of type specimens in zoology? Discuss the different type specimens with suitable examples. 5+5=10

7. What is standard deviation? What are the properties of standard deviation. Mention the merits and demerits of standard deviation. 2+4=4=10

8. Define median and write its properties? Calculate the median of 32, 24, 27, 19, 21, 26, 40, 10 6+4=10

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[PART-A : Objective]

Choose the correct answer from the following :

1X20=20

1. Binomial nomenclature was mentioned for the first time in the Book
 - a. Systema Naturae
 - b. Genera Plantarum
 - c. Genera Animalium
 - d. Historia Plantarum
2. The characterization and identification of cell's complete chromosome set is known as
 - a. Chromosomal taxonomy
 - b. Cellular taxonomy
 - c. Karyotyping
 - d. Cytotaxonomy
3. The occurrence of specific pheromones used as a tools in
 - a. Cytotaxonomy
 - b. Chemotaxonomy
 - c. Molecular Taxonomy
 - d. All the above
4. Systematics
 - a. Deals with relationship between taxa through time
 - b. Leans heavily on phylogenetic relationship
 - c. Requires recognition of fossil record
 - d. All the above
5. The taxonomy which concerns itself with the arrangement of species into a natural system of classification into a system of lower and higher categories which aim to reflect the phylogenetic history of organisms known as
 - a. Alpha taxonomy
 - b. Beta taxonomy
 - c. Gamma taxonomy
 - d. All the above.
6. The classification doing on the basis of cell's structure, functions and chromosome numbers are called
 - a. Cytotaxonomy
 - b. Chemotaxonomy
 - c. Molecular taxonomy
 - d. All the above
7. Electrophoresis technique used as a taxonomic tools in
 - a. Cytotaxonomy
 - b. Morphological Approach
 - c. Molecular taxonomy
 - d. Chemotaxonomy
8. Specimens used for original publication by an author is
 - a. holotype
 - b. Isotype
 - c. Syntype
 - d. Lectotype
9. A sequential key is also known as
 - a. Dichotomous key
 - b. Analytical Key
 - c. Pathway key
 - d. All of the above
10. A holotype in case of protista when consist of more than one related individuals is called a
 - a. Neotype
 - b. Hapantotype
 - c. Syntype
 - d. Isotype
11. Specimens used for original publication by an author is
 - a. Holotype
 - b. Isotype
 - c. Syntype
 - d. Lectotype
12. The purpose of fixation of specimen is
 - a. To prevent autolysis
 - b. To prevent degradation
 - c. To coagulate and stabilize protiens
 - d. All the above
13. Pitfall traps are employed to capture
 - a. Invertebrates
 - b. Amphibian
 - c. Reptilian
 - d. All the above
14. Which of the following are hypothesis testing methods used in statistics?
 - a. Chi-square test
 - b. T test
 - c. Both a and b
 - d. None

15. Which of these are types of mean?
 a. Arithmetic mean
 b. Geometric mean
 c. Harmonic mean
 d. All of these
16. In a symmetrical distribution, mean is equal to which quantity?
 a. Median
 b. S. D
 c. S. E
 d. none of these
17. A distribution with two modes is called
 a. Unimodal
 b. Bimodal
 c. Trimodal
 d. none of these
18. Arithmetic mean is also called
 a. average
 b. deviation
 c. dispersion
 d. none of these
19. Which of the following are sampling methods in Biostatistics?
 a. Quadrat Sampling
 b. Point sampling
 c. Stratified sampling
 d. All of these
20. Which of these methods can be used to sample insect population in a grassland?
 a. Stream transect
 b. Inertia sampling
 c. Quadrat sampling
 d. None of these

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UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA



[PART (A) : OBJECTIVE]

Duration : 20 Minutes

Serial no. of the
main Answer sheet

Course :

Semester : Roll No :

Enrollment No : Course code :

Course Title :

Session : 2017-18 Date :

Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- Students shall tick (✓) the correct answer.
- No marks shall be given for overwrite / erasing.
- Students have to submit the Objective Part (Part-A) to the invigilator just after completion of the allotted time from the starting of examination.

| Full Marks | Marks Obtained |
|------------|----------------|
| 20 | |

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Scrutinizer's Signature

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Examiner's Signature

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Invigilator's Signature