P-104 (BIOSTATISTICS AND TAXONOMY)

1. Answer the following questions. **[1 mark]**

1. The word ‘statistik’ in German means
a) calculation
b) government
c) maths
d) classification

2. The application of statistical methods in biology is called
a) Statistics in biology
b) statistic in vivo
c) biostatistics
d) all of these

3. Biostatistics is also called as
a) Statistics in biology
b) bionemerology
c) biometry
d) both a and b

4. Who is regarded as the father of biostatistics
a) Fischer
b) Karl Pearson
c) Francis Galton
d) Francis Bacon

5. The term ‘biometry’ was coined by
a) Fischer
b) Karl Pearson
c) Francis Galton
d) Walter Weldon

6. The branch of biostatistics that deals with methods of collection, organization and presentation of data is called as
a) Infererntial biostatistics
b) Descriptive biostatistics
c) both a and b
d**)** comparative biostatistics

7. The branch of biostatistics that deals with testing of hypothesis, making predictions using data collected is called as
a) Infererntial biostatistics
b) Descriptive biostatistics

c) both a and b
d**)** comparative biostatistics

8. In biostatics, group of individuals taken for study is called as
a) block
b) population
c) group
d) flock

9. The characteristics or quantity that may vary from one individual to another is called
a) static group
b) variable
c) dynmic group
d) dynamism

10. Variables whose values can be expressed numerically are called
a) quantitative variables
b) qualitative variables
c) absolute variables
d) continuous variables

11. Flower colour is a
a) quantitative variables
b) qualitative variables
c) absolute variables
d) continuous variables

12. Variables whose values cannot be expressed numerically are called
a) quantitative variables
b) qualitative variables
c) absolute variables
d) continuous variables

13. Quantitative variables that has only fixed or finite values are called
a) quantitative variables
b) Discrete variable
c) absolute variables
d) continuous variables

14. **Height of students in a class is a**
a) quantitative variables
b) Discrete variable
c) absolute variables
d) continuous variables

15. Quantitative variables that can have any numerical values are called
a) quantitative variables
b) Discrete variable
c) absolute variables
d) continuous variables

16. Number of fruits in a tree is a
a) quantitative variables
b) Discrete variable
c) absolute variables
d) continuous variables

Answers

1. b) government
2. c) biostatistics
3. c) biometry
4.c) Francis Galton
5. d) Walter Weldon
6. b) Descriptive biostatistics
7. a) Infererntial biostatistics
8. b) population
9. b) variable
10. a) quantitative variables
11. b) qualitative variables
12. b) qualitative variables
13. b) Discrete variable
14. d) continuous variables
15. d) continuous variables
16.b) Discrete variable

2.Answer the following questions within 2-3 sentences. [1.5 mark]

1. What is the difference between sample and population.
2. Define sampling method.
3. Give some characteristics of binomial distribution.
4. What are the properties of poisson distribution.
5. Give the graphical representation of normal distribution.
6. What is mean and its types ?
7. What is importance of mean ?
8. What is central tendency and its types ?
9. What is mode in biostatistics.
10. Differentiate between absolute measure of dispersion and relative measure dispersion.

11. What do you mean by null hypothesis ?
12. What is meant by alternative hypothesis ?
13. What are the types of T-test ?
14. State about the CHI – square test .
15. What do you mean by correlation and regression.
16. What is taxonomic hierarchy ?
17. What is biological nomenclature ?
18. What do you understand by artificial and natural classification ?
19. What is phenetic system of classification ?
20. What is phylogenetic system of classification ?

3. Answer the following questions within 75-100 words. [2 marks]

1. What is concept of population and sample with illustration in statistics ?
2. Mention some types of sampling methods.
3. What do you mean by binomial distribution ?
4. Briefly describe about poission distribution.
5. What is a normal curve ?
6. How do you find median in bio-statistics ?
7. Give the advantage and dis-advantages of range.
8. Define dispersion . What are the different measures of dispersion.
9. Differentiate between null hypothesis and alternate hypothesis.
10. What is T-test ? What are application of T-test ?
11. What is CHI-square test used for ?State its formulae.
12. What is ANOVA ? Mention its types.
13. Differentiate between correlation and regression.
14. What is taxonomy ? How it is different from systematics.
15. Give the concept of species.
16. What is continental drift theory ?
17. What is theory of plate tectonics ?
18. What do you mean by zoogeographical realms ?
19. What do you understand by taxon ?
20. Give a brief account on evolutionary relationships among taxa.

4. Answer the following questions within 500 words. [6marks]

1. Give the concept of sample and population.
2. What are the different sampling methods ?
3. What are the various types of probability distribution ?
4. State about the measures of central tendency .
5. What are the measures of dispersion ?

6. Write short notes on T-test , Chi-square test and ANOVA .
7. Give an account on correlation and regression analysis.
8. Give an brief account on origin and development of taxonomy.
9. What is the concept of species ? Add an note on hierarchical taxa.
10. Elaborate classical and quantitative methods of taxonomy of plants , animals & microorganisms.
11. What are the different types of classification?
12. State about the criterion used for classification in each taxon.
13. What are the evolutionary relationship among taxa ?
14. What are the modern trends in taxonomy ?
15. Give the theories pertaining to distribution of animal.
16. Write short note on distribution of vertebrates in different realms.
17. Define realms. Add a note on major habitat types of the sub-continent.
18. Give a brief account on seasonality and phenology of the subcontinent.