



**B-003-1181004** Seat No. \_\_\_\_\_

**M. Sc. (Zoology) (CBCS) (W.E.F.-2016)  
(Sem. I) Examination**

**March - 2021**

**Biostatistics and Bioinformatics : ZOOL-104**

**Faculty Code : 003**

**Subject Code : 1181004**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

**Instruction :** Attempt any five questions.

- 1** Answer the following very briefly : **14**
- (a) Define 'one tailed t-test'.
  - (b) Define parameter.
  - (c) Define coefficient of variation.
  - (d) Define parametric test.
  - (e) Define Paired test.
  - (f) Define Contig.
  - (g) Define Primary and secondary database.
- 2** Answer the following very briefly : **14**
- (a) Define Regression.
  - (b) Define Proteomics.
  - (c) Define orthologus gene.
  - (d) Define metabolomics.
  - (e) Define analogous gene.
  - (f) Define ANOVA.
  - (g) What is Chi square test ?
- 3** Answer of the following : **7×2=14**
- (a) What are different measures of dispersion? Describe with suitable examples.
  - (b) Importance of data and tabulation in statistics?

- 4 Answer the following : **7×2=14**  
(a) Write notes on gene prediction in prokaryote system.  
(b) What is the need of Coefficient of Variation? Discuss briefly with suitable examples.
- 5 Answer the following : **7×2=14**  
(a) Discuss the role of bioinformatics in agriculture.  
(b) Discuss the application of bioinformatics in medicine.
- 6 Answer the following : **7×2=14**  
(a) Discuss the importance of the study of phylogenetic relationship.  
(b) Explain in brief Regression.
- 7 Answer the following : **7×2=14**  
(a) Discuss multiple sequence alignment and its importance.  
(b) How do you establish confidence limits for population mean?
- 8 Answer the following : **7×2=14**  
(a) Describe the steps of ANOVA.  
(b) Briefly describe Student t-test.
- 9 Answer the following : **7×2=14**  
(a) Describe Shine-dalgarno sequence  
(b) What is F-test? Mention two uses of F-test.
- 10 Answer the following : **7×2=14**  
(a) What is the difference between t-test and ANOVA? Describe with suitable examples.  
(b) Briefly describe motif and domain.
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