

B. Pharm. CBCS Pattern Semester-VIII  
**BP801T - Biostatistics and Research Methodology**

Time : Three Hours



**GUG/W/23/14147**

Max. Marks : 75

Notes : 1. All questions are compulsory.

### 1. Multiple Choice Questions.

20

- 1) The median of the data 1, 4, 2, 5, 0 is -----  
a) 1                                      b) 2  
c) 4                                      d) 5
- 2) Which of the following is not a type of central tendency.  
a) Mean                                  b) Mode  
c) Median                                d) None of these
- 3) Biostatistics is the application of statistics to a wide range of topics in -----  
a) Statistics                              b) Biology  
c) Both a & b                             d) None of these
- 4) Karl Pearson's coefficient of correlation is also known as ----- moment correlation.  
a) Product                                b) Result  
c) Both a & b                             d) None of these
- 5) The basic relationship between X and Y in regression is given by -----  
a)  $X = b + bX$                               b)  $Y = b + bX$   
c)  $X = a + X$                                 d)  $Y = a + bX$
- 6) Correlation factor is -----  
a)  $T/2$                                         b)  $T^2N$   
c)  $T^2/n$                                       d) All of these
- 7) Full form of SEM is Standard -----  
a) Errata of Mean                        b) Error of Mean  
c) Errata of Median                      d) Error of Median
- 8) R-Square, also known as -----  
a) Mean Value                            b) Mode analysis coefficient  
c) Coefficient of determination      d) None of these
- 9) Which among the following is not a type of research?  
a) Qualitative                              b) Empirical  
c) Analytical                                d) None of these
- 10) A histogram is an accurate representation of the distribution of -----  
a) Alphabetic data                        b) Numerical data  
c) Both a & b                                d) None of these
- 11) A cohort study is a particular form of ----- study that simple a cohort.  
a) Vertical                                  b) Horizontal  
c) Circular                                 d) Longitudinal
- 12) Clinical trials involving new drugs are commonly classified into ----- phases.  
a) One                                        b) Two  
c) Three                                      d) Four

- 13) Blocking is a technique for dealing with ----- nuisance variables.
  - a) Uncontrollable
  - b) Unbearable
  - c) Bearable
  - d) Controllable
- 14) Confounding is a design technique for arranging the complete factorial experiment in-----
  - a) Row
  - b) Blocks
  - c) Both a & b
  - d) None of these
- 15) The file associated with minitab graph is -----
  - a) \*.mgf
  - b) \*.mpj
  - c) \*.mtmm
  - d) \*.mt
- 16) Which among the following is not a use of regression modeling?
  - a) Predictive Modeling
  - b) Segmentation
  - c) Testing
  - d) Analysis
- 17) Design of experiments in the design of any -----
  - a) Force
  - b) Task
  - c) Moment
  - d) All of these
- 18) Central composite designs are ----- level full factorial.
  - a) One
  - b) Two
  - c) Three
  - d) Four
- 19) Special geometrics is -----
  - a) Cube
  - b) Sphere
  - c) Bot a & b
  - d) None of these
- 20) Which among the following properties and features of response methodology?
  - a) Orthogonality
  - b) Rotatability
  - c) Uniformity
  - d) All of these

**2. Long answer questions. Solve any two.**

**20**

- 1) Define and discuss various techniques of ANOVA.
- 2) Discuss experiential design technique in detail.
- 3) Define and discuss blocking and confounding system.

**3. Short answer questions. Solve any seven.**

**35**

- 1) Write a note on Minitab.
- 2) Explain experiment design.
- 3) Give core function of SSP.
- 4) Write a note on pie chart.
- 5) Explain cohort studies.
- 6) Define population and subpopulations in statistics.
- 7) Explain mathematical expression of SEM.
- 8) Note on measures of central tendency.
- 9) Explain Karl Pearson Coefficient of Correlation.

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