

SUM-2023  
18/5/23 CJ-10

BP 801T  
Biostatistics and Research Methodology  
748801

Time: Three Hours

Max. Marks: 75

Instruction to Candidates:

1. Do not write anything on question paper except Seat No.
2. All questions are compulsory.
3. Figures to right indicate full marks.
4. Students should note, no supplement will be provided.
5. Graph or diagram should be drawn with the black ink pen or black HB pencil.

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1. A) Answer all the questions.

- i) Colour of flower is  
a) Quantitative variable    b) Qualitative variable    c) Continuous variable  
d) Absolute variable
- ii) Types of class interval are  
a) Exclusive    b) Inclusive    c) Both a & b    d) None
- iii) Mean can also be called as  
a) Median    b) Mode    c) Average    d) None
- iv) Which is not a type of Measure of Dispersion?  
a) Range    b) Mean    c) Standard deviation    d) Quartile deviation
- v) Primary data and \_\_\_\_\_ data are same  
a) Grouped    b) Ungrouped    c) Secondary    d) None
- vi) Interviewing all members of a given population is called  
a) Sample    b) Audit    c) Poll    d) Census
- vii) The Wilcoxon rank-sum test compares  
a) Two populations    b) Three or more populations  
c) A sample mean to the population mean    d) None of these
- viii) Total angle in Pie chart is \_\_\_\_\_ degree.  
a) 360    b) 270    c) 180    d) 300
- ix) The variable that are not related to the study but affects the response is called as  
a) Dependent variable    b) Extraneous variable    c) Independent variable  
d) None
- x) The type of clinical trial in which the intervention is preventive and not therapeutic is known as \_\_\_\_\_  
a) Randomized Controlled Clinical Trial    b) Randomized Controlled Field Trial  
c) Risk Factor Trial    d) None
- xi) The most frequently occurring number in a set of values is called the \_\_\_\_\_.  
a) Median    b) Mode    c) Average    d) None
- xii) What is the median of the following set of scores 19, 5, 12, 10, 14?  
a) 9    b) 15    c) 14    d) 12
- xiii) The group of people with something in common is known as  
a) Cohort    b) Group    c) Crowd    d) None of the above
- xiv) In hypothesis testing, the hypothesis tentatively assumed to be true is  
a) Alternate hypothesis    b) Null hypothesis    c) Both a and b    d) None
- xv) When the probability of success is 0.1, then the probability of failure will be

- a) 1                      b) 0.6                      c) 0.9                      d) 0.1  
 xvi) Sample is regarded as a subset of?  
 a) Data                  b) Set                      c) Distribution                  d) Population  
 xvii) As sampling size increases, the error:  
 a) Decreases          b) Increases                  c) Having no any effect          d) All of the above  
 xviii) In normal distribution curve, mean of the data lie on the  
 a) Right side                  b) Centre                      c) Left side                      d) None  
 xix) Basic research is also called as:  
 a) Applied research          b) Descriptive research          c) Fundamental research  
 d) None  
 xx) Plagiarism includes \_\_\_\_  
 a) Copying someone's work                      b) Failure to cite a source  
 c) Turning in another person's work as your own                  d) All of the above

2. Attempt any two of the following. 20
- Describe in detail various Experimental designs.
  - Define sampling. Explain various types of sampling techniques.
  - Write in brief about "Report Writing".

3. Attempt any seven of the following. 35
- Write in brief about various parts of protocol.
  - Explain various types of graphs used in statistics.
  - Define Research. Write importance of research. Explain various types of research.
  - Explain three types of research designs. Also explain the three basic principles of Experimental designs.
  - Explain the following terms:
    - Dependent and Independent variable
    - Extraneous variable
    - Experimental and control groups
  1. Solve the following:
    - Find mean

X	4	6	9	10	15
F	5	10	10	7	8

b. Find median

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	4	15	24	16	13

- Define Clinical trial. Explain various phases of Clinical trials.
- Write in brief about Factorial design. Explain in detail about  $2^2$  and  $2^3$  factorial design.
- Elaborate the use of Excel for Statistical analysis in research.

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