



## **BRAINWARE UNIVERSITY**

Term End Examination 2024-2025
Programme – B.Optometry-2021/B.Optometry-2022
Course Name – Research Methodology and Bio-statistics
Course Code - BOPTOS506
(Semester V)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own

words as far as practicable.]

## Group-A

(Multiple Choice Type Question)

1 x 15=15

- 1. Choose the correct alternative from the following:
- (i) What type of data represents categories with no inherent order or ranking?
  - a) Interval data

b) Nominal data

c) Ordinal data

- d) Ratio data
- (ii) What is the process of gathering information from the targeted population for research purposes called?
  - a) Data Analysis

b) Data Collection

c) Data Interpretation

- d) Data Validation
- (iii) What is a structured set of questions used for obtaining information from respondents in a standardized way?
  - a) Interview

b) Survey

c) Experiment

- d) Observation
- (iv) Which data collection method allows for in-depth exploration of participants' thoughts and experiences?
  - a) Surveys

b) Experiments

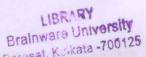
c) Interviews

- d) Observations
- (v) Which of the following is an advantage of using interviews for data collection?
  - a) Limited in-depth information
- b) Standardized responses

c) High response rate

- d) Probing for detailed responses
- (vi) What is a disadvantage of using secondary data in research?
  - a) Expensive

- b) Time-consuming
- c) Lack of control over data quality
- d) Limited availability
- (vii) What type of sampling method involves selecting individuals who are easiest to reach?



	a) Snowball sampling carassit. The bit Convenience sampling		
	c) Stratified sampling d) Random sampling		
viii)	i) What is the process of selecting a subset of individuals from a larger population to		
	represent the whole group?		
	a) Sampling b) Data interpretation		
	c) Data analysis d) Data validation		
(ix)	Which data collection method is most suitable for studying people's behavior in natural		
	settings?		
	a) Experiments b) Interviews		
	c) Surveys d) Observations		
(x)	What is the technique of gathering data from a sample group repeatedly over time called?		
	a) Longitudinal study b) Cross-sectional study		
	c) Retrospective study d) Case-control study		
(xi)	) What is the key drawback of convenience sampling?		
(,,	a) It is time-consuming b) It may lead to biased results		
	c) It is expensive d) It requires advanced statistical	knowle	edge
(vii)	) Which of the following sampling techniques is commonly used in clinical trials and		
(////	research to compare treatments?	11001100	
	a) Snowball sampling b) Random sampling c) Stratified sampling d) Randomized controlled trials		
viii	i) What is mortality rate?		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	a) Number of births per 1,000 people b) Number of deaths per 1,000 p	oonlo	
	c) Number of marriages per 1,000 people d) Number of immigrants per 1,000 p	100	nle
viv	() Which of the following is a common measure of mortality in a specific population?	oo peo	pic
NIV			
	a) Birth rate b) Death rate		
(sort)	c) Fertility rate  d) Migration rate		
(XV)	What is the primary purpose of statistical software?		
	a) Creating presentations b) Analyzing and interpreting dat	a	
	c) Writing code d) Designing websites		
	Crown D		46
	Group-B (Short Answer Type Questions)		3 x 5=15
	(Short Answer Type Questions)		2 X 2-12
2 14	A/hat is the mean and how is it calculated?		(3)
	2. What is the mean, and how is it calculated? 3. Discuss the advantages of using secondary data in research.		
	Explain the interquartile range (IQR) and its significance in statistics.		
	Define random sampling and its Importance.		
	Discuss the advantages of cluster sampling in large-scale research studies.		(3)
ا. د	OR		(3)
Н	How should a researcher address potential limitations of their study in a research prop	oosal?	(3)
			ISBN B
	Group-C		
	(Long Answer Type Questions)		5 x 6=30
7.	Explain the concept of qualitative data in research with example.		(5)
9.	Explain the situations in which ANOVA is preferable over a t-test and also describe the way ANOVA procedure with a suitable example.	e one-	(5) (5)

10. Explain the concept of effect size and its relevance in determining the practical significance of research findings.
11. Describe the role of interviews in qualitative data collection.
12. Explain the concept of sampling distribution and it's importance in inferential statistics.
OR
Explain simple, stratified, cluster random sampling.
(5)

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