



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(OTT)-2021

Course Name – Research Methodology and Biostatistics

Course Code - BOTTE604

(Semester VI)

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) To conduct a research, state the step that must be done first.
- | | |
|--------------------------------------|-----------------------------------------------|
| a) Developing a research design | b) Deciding about the data analysis procedure |
| c) Formulating a research hypothesis | d) Formulating a research question |
- (ii) Predict the correct option which may not be followed to prepare a good research objective.
- | | |
|---------------------------------------------|-----------------------------------------------------------|
| a) Pinpoint the major focus of the research | b) Break down the research focus into research objectives |
| c) Follow the SMART format | d) SMART format need not to be followed |
- (iii) You are trying to identify the reason of difference of blood pressures in 2 groups of students. Name the type of research you want to do.
- | | |
|----------------|---------------|
| a) Descriptive | b) Analytical |
| c) Qualitative | d) Applied |
- (iv) Select the option which should be considered unethical in research.
- | | |
|---------------------------------------------------|-----------------------------|
| a) Honest work | b) Malhandling of subjects |
| c) Asking for written consent to perform research | d) Citing a copied sentence |
- (v) Name the type of ethical issues in a research.
- | | |
|------------------------------------|--------------------------|
| a) Human ethical issues | b) Animal ethical issues |
| c) Project-specific ethical issues | d) All of these |
- (vi) Write the characteristics of data.
- | | |
|---------------------------------------------|-----------------------|
| a) It can be measured | b) It can be analysed |
| c) It can be visualised in graphs or charts | d) All of these |
- (vii) Identify the option which is not a quantitative data.
- | | |
|---------------------------|--------------------------|
| a) Length (in centimeter) | b) Length (in foot) |
| c) Length (small or long) | d) Length (in lightyear) |
- (viii) Write the source of secondary data.

- a) Journals
c) Interviews
- b) Surveys
d) Observations
- (ix) Select the correct option regarding simple random sampling
- a) All members have an equal chance of being selected
c) A group or cluster of sample is selected randomly
- b) The ratio of certain characteristics is same in sample as in population
d) Every 5th or 10th individual is selected
- (x) You are selecting students of roll no. 1, 11, 21, 31, 41 and 51. Identify the type of sampling.
- a) Stratified sampling
c) Convenience sampling
- b) Systematic sampling
d) Purposive sampling
- (xi) Choose the correct option: The correlation refers to _____.
- a) determine if a change in X changes Y
c) determine if a change in Y changes X
- b) the association between two variables
d) determine if X belong to the population
- (xii) If the value of X increases with increase of Y, choose the type of correlation.
- a) Positive
c) Strong
- b) Negative
d) None of these
- (xiii) Choose the correct option: The selection of sample size is dependent on:
- a) The study
c) The researcher
- b) The experiment
d) The variables
- (xiv) Select the correct option: The following is a step in biological research.
- a) Identifying a problem
c) Data interpretation
- b) Data collection
d) All of these
- (xv) Identify the basic characteristics of analytical research.
- a) It gathers knowledge skills.
c) It is useful for formulating hypothesis.
- b) It solves a problem.
d) It analyse facts or information already available.

Group-B

(Short Answer Type Questions)

3 x 5=15

Answer all questions

2. Differentiate between primary and secondary data. (3)
3. Write a short note on cohort study. (3)
4. Explain the term "Non-respondents" in a questionnaire method. (3)
5. Give examples of grouped data and ungrouped data. (3)
6. You are trying to calculate the mean of the marks obtained by 3 students, The marks were 45, 42 and 39. You calculated the mean as 41. Find error in the calculation. (3)

OR

In a class test, the students got following marks: 4, 3, 6, 6, 7, 8, 3, 5, 8, 9, 6, 6, 4, 9, 8. It is decided from the department that the students who got less marks than the mean marks, should take a remedial class. Calculate the number of students who must attend the remedial class. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

Answer all questions

7. The latent period of influenza virus was observed in 6 patients were 3, 7, 4, 5, 6 and 5 days. Calculate the standard deviation of latent period of influenza virus. (5)
8. Explain the term "significant difference between two groups". (5)
9. Differentiate between experimental study and observational study. (5)

- 10. Explain the design elements of case-control study and the procedure of data analysis. (5)
- 11. Predict the consequences of improperly collected data. (5)
- 12. Prepare a list that can be used for collection of primary data. (5)

OR

Explain with example: Bar diagram can be used in data presentation. (5)
