BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – B.Sc.(MLT)-2020/B.Sc.(MLT)-2021
Course Name – Research Methodology and Biostatistics
Course Code - BMLT604
(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) Identify the following which is not included as a criteria for research objective:
   a) It is the outcome that a researcher aim to achieve
   b) There is always one objective in a research proposal
   c) It drives the research project towards a direction
   d) It focuses on the key methods that should be followed in a research

(ii) 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

(iii) Write the significance of research.
   a) It helps to understand the world around us
   b) It finds solutions to problems
   c) It establishes fact
   d) All of these

(iv) Identify the option which is not a quantitative data.
   a) Length (in centimeter)
   b) Length (small or long)
   c) Length (in foot)
   d) Length (in lightyear)

(v) Identify the incorrect option regarding the source of secondary data
   a) Internet
   b) Newspaper
   c) Journal
   d) Survey

(vi) Give example of data collection procedure.
   a) Telephone calling
   b) Animal experiments
   c) Survey
   d) All of these

(vii) Choose the mode of the given data: 2, 4, 5, 6, 4, 3, 5, 6, 7, 3, 3, 5, 6, 6, 4, 5, 6
   a) 4
   b) 5
   c) 6
   d) 7

(viii) At a grocery store, number of per day sold processed fruits cans in 15 days are 50, 70, 60, 40, 30, 20, 5, 150, 55, 75, 65, 45, 35, 25, 52. Identify the median value.

a) 5
b) 20
c) 75
d) None of these

(ix) Select the median of the values -5,-8, -10, 0, 6, 8, 10.

a) 0
b) -10
c) 6
d) -5

(x) If the value of X increases with increase of Y, choose the type of correlation.

a) Positive
b) Negative
c) Strong
d) None of these

(xi) Select the example of snowball sampling.

a) You asked the participant to bring other participants with same desired characteristics
b) You randomly select participants from a pool of subjects
c) You selected participants with same sex ratio
d) You selected participants with special characters

(xii) Identify the type of research where control group is required.

a) Survey
b) Experimental
c) Historical
d) Descriptive

(xiii) Write the correct statement for null hypothesis.

a) It proposes that no statistical significance is there between two sets of data.
b) It proposes that there is statistical significance between two sets of data.
c) It is always be rejected.
d) It is always be accepted.

(xiv) Write the correct statement about standard error.

a) It is the mean value of data set.
b) It is the dispersion of data around the mean.
c) It is the likelyhood of differences between sample mean and population mean.
d) It is the error in calculating the data.

(xv) Name the method which is not used in statistical analysis.

a) Student's t test
b) Professor's t test
c) One-way analysis of variance
d) Two-way analysis of variance

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Differentiate between applied research and fundamental research. (3)
3. Write a short note on cohort study. (3)
4. Compute the median of the given data: 7, 4, 3, 5, 6, 3, 3, 3, 2, 4, 3, 4, 3, 3, 4. (3)
5. Compute the median of the given data: 100, 102, 5, 4, 107, 26, 28. (3)
6. Estimate the standard deviation, if the variance is 1.44 (3)

OR

Calculate the variance, if the standard deviation is 2.10. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Write any five good ethical practices that can be implemented in research. (5)
8. There were 3 students who got 0-20 marks, 4 students who got 20-40 marks and 3 students who got 40-60 marks. Calculate the standard deviation of marks of the students. (5)
9. The hospitalization period for COVID19 in 6 patients were 3, 10, 21, 11, 11 and 10 days. Calculate the standard deviation of hospitalization period of COVID19 disease. (5)
10. Differentiate between experimental study and observational study. (5)
11. Discuss about the advantages and disadvantages of primary data. (5)

12. In a fruit basket, there are 9 apples, 18 grapes, and 9 mangoes. Draw any suitable diagram to represent this data. (5)

OR

Analyse the statement: mean, mode and median are three different central values of a dataset. (5)

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