

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY**FIRST SEMESTER (2017 - 2018)****PAPER VI – RESEARCH METHODS AND STATISTICS***Q.P. Code: 802336***Time: Three Hours****Maximum : 75 Marks****Answer All questions****I. Elaborate on:****(2 x 10 = 20)**

1. Role of research and statistics in the field of audiology and speech language pathology.
2. Find the mean, median, mode, range, standard deviation and coefficient of variation for the following data
24, 28, 20, 28, 36, 37, 36, 50, 80, 28.

II. Write notes on:**(8 x 5 = 40)**

1. Measurement scale.
2. The height of 100 subjects in certain community is said to be normally distributed with a mean and standard deviation of 165 cm and 13.5 cm, respectively. Calculate 95% CI.
3. Advantages of sampling over census.
4. One-sided test with example.
5. Type I error and Type II error.
6. Ex-post facto research design with example.
7. Ethics of research in behavioural sciences.
8. Measurement procedures in speech language pathology and audiology.

III. Short answers on:**(5 x 3 = 15)**

1. Properties of normal distribution.
2. Pearson correlation co-efficient.
3. The following is the systolic and diastolic blood pressures data of seven subjects:
DBP: 78, 86, 83, 80, 89, 84, 87. Calculate the CV.
4. What is secondary method of data collection?
5. Uses of non-parametric tests.

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1. Write in detail about the sampling techniques with appropriate examples.
2. A randomized control trial was carried out to compare the neonatal complications in women with gestational diabetes with moderate hyperglycaemia on two treatment groups metformin or glibenclamide drugs. The primary outcome, a composite score (one or more) of the neonatal complications. A summary of the results is as follows:

Neonatal Complications	Treatment Groups		Total
	Glibenclamide	Metformin	
One or more	28 (35.0 %)	15 (19.0 %)	43
No	52 (65.0 %)	64 (81.0 %)	116
Total	80	79	159

Test whether the effect of metformin was significantly different in reducing the neonatal complications compared to glibenclamide. (χ^2 (1df) = 3.84).

II. Write notes on:**(8 x 5 = 40)**

1. Experimental research design with example.
2. Qualities of a researcher/scientific clinician.
3. Procedure of construction the frequency table with example.
4. Ethics of research in behavioural sciences.
5. Chi-square test.
6. From a sample of 100 children born in 2009, the proportion of low birthweight is computed as 13 %. Calculate the 95% CI.
7. Procedure involved in testing hypothesis.
8. Explain the procedure of sign-rank test.

III. Short answers on:**(5 x 3 = 15)**

1. Large and small sample test.
2. Conditional probability.
3. Compute CV of the data given: 4, 8, 2, 8, 6, 7, 3, 5, 8, 10.
4. Statement of research problem.
5. Uses of ANOVA.

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST SEMESTER (2017 - 2018)

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P. Code: 802336

Time: Three Hours

Maximum : 75 Marks

Answer All questions

I. Elaborate on:

(2 x 10 = 20)

1. Describe the central value for distribution of data set and explain the relationship between the central values with their merits.
2. Mention the various study designs and discuss in detail about the Analytical study design.

II. Write notes on:

(8 x 5 = 40)

1. Blinding.
2. Measures of Variation.
3. Concepts of probability.
4. ANOVA.
5. P value.
6. Probability distribution.
7. observational study.
8. Independent t test.

III. Short answers on:

(5 x 3 = 15)

1. Vital statistics.
2. Paired t test.
3. Rate, Ratio, Proportion.
4. Standard Error.
5. Prevalence and Incidence.

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST SEMESTER (2017 - 2018)

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P. Code: 802336

Time: Three Hours

Maximum : 75 Marks

Answer All questions

I. Elaborate on:

(2 x 10 = 20)

1. Discuss the research protocol methodology in speech therapy.
2. Discuss the variability of the data is extent to which a distribution is stretched or squeeze and its significance in the study?

II. Write notes on:

(8 x 5 = 40)

1. Randomized control Trial.
2. Central tendency of the data and its importance in the research.
3. Non probability sampling.
4. Parametric and Non parametric test.
5. Test of significance.
6. observational study.
7. Independent t test.
8. ANOVA.

III. Short answers on:

(5 x 3 = 15)

1. Coefficient of variation.
2. Critical region.
3. Regression.
4. Rate, Ratio, Propotion.
5. Ways to reduce the error in the data.

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR – SEMESTER - I

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P. Code: 802336

Time: Three Hours

Maximum : 75 Marks

Answer All questions

I. Elaborate on:

(2 x 10 = 20)

1. Discuss the methods of sampling the data.
2. Describe the experimental study design.

II. Write notes on:

(8 x 5 = 40)

1. Shape of the data.
2. Best measure of variation and its significance in the research.
3. Skewness and Kurtosis of the data.
4. What is research question and how to test the research question?
5. Critical area and critical region with their importance.
6. Cross sectional study with example.
7. Confidence interval.
8. Difference between the qualitative and quantitative data.

III. Short answers on:

(5 x 3 = 15)

1. Null and alternative hypothesis.
2. Relationship of the data.
3. Importance of research in audiology.
4. Mean, median, mode.
5. Scales of measurement.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 2336

(AUGUST 2020 EXAM SESSION)

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SEMESTER - I (Regulation 2017-2018)

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P. Code : 802336

Time: Three hours

Answer ALL Questions

Maximum: 75 Marks

I. Elaborate on:

(2 x 10 = 20)

1. Write in detail about measures of central tendency and measures of dispersion with appropriate examples.
2. Discuss the research protocol methodology in speech therapy.

II. Write notes on:

(8 x 5 = 40)

1. Central tendency of the data and its importance in the research.
2. Randomized control trial.
3. Probability sampling.
4. Parametric and non parametric test.
5. Test of significance.
6. Observational study.
7. Independent t test and steps involved in.
8. ANOVA.

III. Short answers on:

(5 x 3 = 15)

1. Confidence interval.
2. Standard error.
3. Prevalence and incidence.
4. Rate, ratio, proportion.
5. Compute median for the data given: 14, 8, 12, 8, 16, 7, 31, 15, 8, 10.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0422]

APRIL 2022

Sub. Code: 2336

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSIONS)

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SEMESTER - I (Regulation 2017-2018)

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P NO. 802336

Time: Three Hours

Answer All questions

Maximum: 75 Marks

I. Elaborate on : (2X10=20)

1. Describe the basic steps involved in conducting Randomized Controlled Trials and discuss about the types of R.C.T.
2. a) Explain the measures of central tendency and dispersion.
b) Write a brief note on Types of Probability Sampling.

II. Write Notes on : (8X5=40)

1. Importance of research in audiology.
2. Systematic Random Sampling.
3. Scale of measurement.
4. Uses of epidemiology.
5. Gantt chart.
6. Differences between parametric and non parametric test.
7. What is a confounder? Explain with an example.
8. Histogram and Bar diagram.

III. Short Answers on : (5X3=15)

1. Vital statistics.
2. Confidence interval.
3. Blinding or masking.
4. Reliability.
5. Elements of an Informed Consent.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1122]

NOVEMBER 2022

Sub. Code: 2336

**BACHELOR IN AUDIOLOGY AND SPEECH - LANGUAGE PATHOLOGY
SEMESTER - I (Regulation 2017-2018)**

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P NO. 802336

Time: Three Hours

Answer All questions

Maximum: 75 Marks

I. Elaborate on :

(2X10=20)

1. Write a note on Cross Sectional design.
2. Discuss the Research Methodology in Speech Therapy.

II. Write Notes on :

(8X5=40)

1. What is scatter diagram? Explain in usefulness.
2. Review of literature in ASLP.
3. Write short notes on Chi-square test.
4. Randomized control trial.
5. Methods developing conceptual framework for research.
6. Presentation of data.
7. Type I and Type II errors.
8. Validity and reliability of an instrument.

III. Short Answers on :

(5X3=15)

1. What is the meaning of Bio-statistics?
2. Non parametric test.
3. Z test.
4. Rank Correlation.
5. What is the purpose of describing data?

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0423]

APRIL 2023

Sub. Code: 2336

BACHELOR IN AUDIOLOGY AND SPEECH - LANGUAGE PATHOLOGY
SEMESTER - I (Regulation 2017-2018 onwards)
PAPER VI – RESEARCH METHODS AND STATISTICS
Q.P. Code: 802336

Time: Three Hours

Answer All questions

Maximum: 75 Marks

I. Elaborate on : (2X10=20)

1. Mention the Various Study Designs. Describe in detail how you will conduct a Cohort Study.
2. What are the tests of Significance? Write about the Non-parametric tests.

II. Write Notes on : (8X5=40)

1. Blinding in a Drug trial.
2. Sample selection.
3. Elements of Informed Consent.
4. Scales of measurement.
5. Types of Data collection.
6. Confounding and effect modification.
7. Binomial distribution.
8. Visual analog scale.

III. Short Answers on : (5X3=15)

1. Predictive value of Positive test.
2. Formulation of Research Question.
3. Media and its advantages and disadvantages.
4. Paired T test.
5. Scatter diagram.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0424]

APRIL 2024

Sub. Code: 2336

BACHELOR IN AUDIOLOGY AND SPEECH - LANGUAGE PATHOLOGY
SEMESTER - I (Regulation 2017-2018 onwards)
PAPER VI – RESEARCH METHODS AND STATISTICS
Q.P. Code: 802336

Time: Three Hours

Answer All questions

Maximum: 75 Marks

I. Elaborate on : **(2X10=20)**

1. Types and methods of Data collection and their advantages and disadvantages.
2. Types of Research.

II. Write Notes on : **(8 X 5 = 40)**

1. Strength and weakness of Cluster sampling.
2. What is meant by power of the test and level of significance?
3. Define the terms Range, Standard Deviation and Normal Distribution.
4. Bias in Epidemiological studies.
5. Patient Information Sheet.
6. IRB.
7. Analytical Study designs.
8. Scales of Measurement.

III. Short Answers on : **(5 X 3 = 15)**

1. Non-Parametric tests.
2. Define Hypothesis and its types.
3. Blinding in Drug Trial.
4. Simple Random Sampling.
5. Measurement of Morbidity.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0425]

APRIL 2025

Sub. Code: 2336

**BACHELOR IN AUDIOLOGY AND SPEECH - LANGUAGE PATHOLOGY
SEMESTER - I (Regulation 2017-2018 onwards)**

PAPER VI – RESEARCH METHODS AND STATISTICS

Q.P. Code: 802336

Time: Three Hours

Answer All questions

Maximum: 75 Marks

I. Elaborate on :

(2 X 10 = 20)

1. The data on pulse rate per minute of 10 individuals are 82, 79, 60, 76, 63, 81, 68, 74, 60, 75. Find the Arithmetic Mean, Mode and Median and Standard deviation.
2. Discuss the Research Protocol Methodology in Speech Therapy.

II. Write Notes on :

(8 X 5 = 40)

1. Probability sampling.
2. Experimental study.
3. Independent t test and steps involved in.
4. Case control design.
5. Uses of Statistical Package for Social Sciences (SPSS).
6. Collection of Data.
7. What is Prevalence and Incidence?
8. Types of Variable.

III. Short Answers on :

(5 X 3 = 15)

1. What is Bio-statistics? Explain its aims and applications in the field of biology.
2. What are the Various Data Collection methods?
3. Draw a suitable diagram for the following data and give inference:
Age distribution of Polio patients.

Age (years)	No. of Patients
0-4	35
5-9	18
10-14	11
15-19	8
20-24	6

4. What are the four levels of Measurements?
5. What are the differences between Descriptive Statistics and Inferential Statistics?
