First Semester M.Sc. Audiology Degree Regular Examinations May 2021

## A 101: Research Methods, Statistics \& Epidemiology

Time: 3 hrs
Max marks: 80

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary


## Essays

(5x16=80)

1. (a) Highlight the defining characteristics of experimental research and their applicability in the field of hearing research
(b) Discuss ethical considerations in research
2. (a) Discuss the scope and functions of epidemiology related to audiology
(b) Write a note on cohort studies
3. (a) Distinguish parametric and non-parametric approaches to hypothesis testing
(b) The following table gives the scores of 10 subjects on a test. Calculate the coefficient of correlation between $X$ and $Y$

| Subjects | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| X | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 24 | 26 | 28 |
| Y | 36 | 33 | 30 | 27 | 24 | 21 | 18 | 15 | 12 | 13 |

4. (a) Explain correlation and regression. Discuss their types and uses.
(b) Calculate the regression coefficient for the following data

| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Y | 9 | 8 | 10 | 12 | 11 | 13 | 14 |

5. (a) Define evidence based practice. Explain the common sources of evidence.
(b) Write a note on systematic reviews and meta-analysis
