

S.Y.B.A.S.L.P. (2013 Course): Winter-2018
SUBJECT: BASIC STATISTIC AND SCIENTIFIC ENQUIRY IN AUDIOLOGY AND
SPEECH LANGUAGE PATHOLOGY

Day : Thursday
Date : 13-12-2018

W-2018-3671

Time : —
Max. Marks: 10.

N.B.:

- 1) Put a in the appropriate box below the question number once only.
- 2) Use blue ball pen only.
- 3) Each question carries **ONE** mark.
- 4) MCQ sheet will be taken back after 10 minutes.

Seat No.: _____

Signature of the Invigilator : _____

Marks Obtained: _____

Signature of the Examiner : _____

SECTION-A (MCQ 10 Marks)

Q.1 M.C.Q.

- 1) The formula for co-efficient of quartile deviation
 - a) $\frac{Q_3 - Q_1}{Q_3 + Q_1}$
 - b) $\frac{Q_3 + Q_1}{Q_3 - Q_1}$
 - c) $\frac{Q_3 - Q_1}{2}$
 - d) $\frac{Q_3 + Q_1}{2}$
- 2) In hypothesis testing there is
 - a) Only type I error
 - b) Only type II error
 - c) Both type I and type II error
 - d) None of the above
- 3) The probability of an event
 - a) Always '1'
 - b) Less than '0'
 - c) More than '0'
 - d) Between '0' and '1'
- 4) For sample size $n < 30$ we use which parametric test of significance
 - a) Z-test
 - b) Chi-square test of independence
 - c) t-test
 - d) None

P.T.O.

- 5) To locate median graphically we use
- a) Bar diagram
 - b) Pie-diagram
 - c) Ogive's curve
 - d) Histogram
- 6) What is a research design?
- a) A way of conducting research that is not grounded in theory
 - b) The choice between using qualitative or quantitative methods
 - c) The system in which you present your research findings e.g. a graph
 - d) A frame work for every stage of the collection and analysis of data
- 7) In an experimental research study, the primary goal is to isolate and identify the effect produced by the
- a) Dependent variable
 - b) Extraneous variable
 - c) Independent variable
 - d) Confounding variable
- 8) Why is it important that personal data about research participants are kept within secure confidential records?
- a) So that the participants cannot find out what has been written about them
 - b) So that individuals, places or organization cannot be harmed through identifications or disclosure of personal information
 - c) So that government officials, teachers and other people in authority can have easy access to the data
 - d) to enable the research to attack down individuals and find out more about their lives
- 9) Ex post facto research does not have control over
- a) Relations
 - b) Manifestation
 - c) Variables
 - d) Influences
- 10) Which of the following is a problem associated with survey research
- a) The problem of objectivity
 - b) The problem of 'going native'
 - c) The problem of omission
 - d) The problem of robustness

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Day : Thursday
Date : 13/12/2018

W-2018-3671

Time : 10.00 AM TO 01.00 PM
Max. Marks: 70.

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw diagrams **WHEREVER** necessary.
- 4) Answer each section in the respective answer sheet only.
- 5) Answers written in the inappropriate answer sheets will not be assessed in any case.

SECTION-B
(SAQ: 35 Marks)

Q.2 Attempt any **FIVE** of the following: **(15)**

- a) Draw histogram and frequency polygon for the data given below:

x	150-155	155-160	160-165	165-170	170-175	175-180
y	5	13	25	30	17	10

- b) Define the term 'Skewness' and 'Kurtosis'.
- c) Write the formula for 2nd quartile.
- d) Pearson's measure of skewness of a distribution is 0.5 Its median and mode are respectively 42 and 36. Find the coefficient of variance.
- e) Write two theorems of probability.
- f) Explain scatter diagram.

Q.3 Attempt any **TWO** of the following: **(20)**

- a) A fertilizer mixing machine is set to give 12 kg of nitrate for every quintal bag of fertilizer. Ten 100 kg bags are examined. The percentage of nitrate are as follows:

11, 14, 13, 12, 13, 12, 13, 14, 11, 12

Is there reason to believe that machine is defective?

- b) A certain diet newly introduced to each of 12 pigs resulted in the following increase in body weight.
3, 6, 3, 8, -2, 0, -1, 1, 6, 0, 5 and 4 can you conclude that diet is effective in increasing the weight of pigs.

c)

Scores under Paceabo CX	Scores under drug (Y)
10	20
13	14
12	7
15	9
16	17
8	18
6	19
	25
	24

The above table gives the scores of patients of one group under placebo and other group under new drug. Test whether there is significant difference between average score of two groups. (use 5% I.O.S.)

P.T.O.

SECTION-C
(LAQ: 35 Marks)

Q.4 Attempt any **FIVE** of the following: **(15)**

- a) Variables
- b) Hypothesis
- c) Validity
- d) Ethics in research
- e) Need of scientific enquiry and ASLP
- f) Qualities of good researcher

Q.5 Attempt any **TWO** of the following: **(20)**

- a) Enumerate the different methods of data collection.
- b) What is research design? Explain in detail.
- c) Define sampling and explain types with suitable examples.

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