

S.Y.B.A.S.L.P. (2013 Course) : SUMMER - 2019
SUBJECT: BASIC STATISTIC AND SCIENTIFIC ENQUIRY IN AUDIOLOGY AND
SPEECH LANGUAGE PATHOLOGY

Day : Saturday
Date : 25/05/2019

S-2019-3941

Time : 10.00 AM TO 01.00 PM
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) If the lower and upper limits of a class are 20 and 50 respectively the midpoint of a class is
 - a) 25.0
 - b) 27.5
 - c) 35.0
 - d) 40.0
- 2) For a negatively skewed distribution the correct relation between mean, median and mode is
 - a) Mean < median < mode
 - b) Mode < mean < median
 - c) Mean = median = mode
 - d) Median < mean < mode
- 3) Student's t-test is applicable only when
 - a) The variable values are independent
 - b) The variable is distributed normally
 - c) The Sample is not large
 - d) All the above
- 4) Degrees of freedom for χ^2 -statistics in case of contingency table of order (2 x 2) is
 - a) 3
 - b) 4
 - c) 2
 - d) 1

P.T.O.

- 5) The area under normal curve is always
- a) ☐ 1
 - b) ☐ 0
 - c) ☐ -0.5
 - d) ☐ -1
- 6) List of all members of the population without duplication is called a
- a) ☐ Sample frame
 - b) ☐ Sample design
 - c) ☐ Census
 - d) ☐ None of the above
- 7) Choose the incorrect statement
- a) ☐ Reliability and validity are not inherent characteristics of measures
 - b) ☐ A measure that is valid for one purpose may not be valid for another purpose
 - c) ☐ Reliability and validity should not be affected by the context and purpose of the measure
 - d) ☐ Creating a new measure using item analysis procedures would usually be followed by assessing the reliability and validity of the measure
- 8) Complete the sentence, A hypothesis is...
- a) ☐ The methodical evaluation of research evidence
 - b) ☐ A statement which serves as the basis for further investigation
 - c) ☐ A statement of the aims of an investigation
 - d) ☐ All of these
- 9) Research design of a study should not include
- a) ☐ Objectives
 - b) ☐ Hypothesis
 - c) ☐ Findings
 - d) ☐ Blue print of research
- 10) 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 organizations cannot be harmed through identification 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 researcher to track down individuals and find out more about their lives

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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) Define the 'Skewness.'
- b) Write two theorems of probability.
- c) Suppose waist measurements of 800 girls are normally distributed with mean 66 cm and SD 5 cm. Find number of girls with waist i) between 65 cm and 70 cm
- d) Calculate median for the following data:

Marks	40-50	50-60	60-70	70-80	80-90	90-100
No. of student	4	10	19	12	4	1

- e) Write formula to find combined standard deviation. Also find Q_1 and Q_3 of 3, 2, 10, 7, 6, 8, 3, 15, 16.
- f) Explain term null hypothesis and alternative hypothesis with example.

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

- a) In an antimalarial campaign in a certain population. Malaria cases were registered from rural and urban area. Using the following table discuss whether nature of area is independent of having malaria

	Malaria	No. malaria
Rural	50	750
Urban	200	2000

Use 5% level of significance.

- b) Ten competitions in a beauty contest are ranked by three judges in the following order:

1 st Judge	1	6	5	10	3	2	4	9	7	8
2 nd Judge	3	5	8	4	7	10	2	1	6	9
3 rd Judge	6	4	9	8	1	2	3	10	5	7

use the rank correlation co-efficient to determine which pair of judges has the nearest approach in the common taste in beauty

- c) Obtain the equation of the two lines of regression for the data given below:

x	1	2	3	4	5	6	7	8	9
y	9	8	10	12	11	13	14	16	15

P.T.O.

SECTION-C
(LAQ: 35 Marks)

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

- a) Importance of research in ASLP.
- b) Reliability
- c) Ex post facto research design
- d) Null Hypothesis
- e) Questionnaire
- f) Sampling

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

- a) Define variable. Explain their types with suitable examples.
- b) What are research questions? Explain different types of data collection.
- c) Explain the various steps of writing a research report in detail.

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