

S.Y.B.A.S.L.P. (2013 COURSE) : WINTER - 2017
SUBJECT: BASIC STATISTICS AND SCIENTIFIC ENQUIRY IN AUDIOLOGY
AND SPEECH LANGUAGE PATHOLOGY

Day: Tuesday
Date: 03/10/2017

W-2017-3439

Time: —
Max. Marks: 10

N.B:

- 1) Put a in the appropriate box below the questions number once only.
- 2) Use **BLUE BALL** point pen only.
- 3) Each question carries **ONE** mark.
- 4) Students will not be allotted mark if he/she overwrite, strikes or puts white ink on the cross once marked.

SECTION-A

MCQ:

Q.1 Lack of symmetry is...

- | | |
|------------------------|--------------------------|
| a) Kurtosis | <input type="checkbox"/> |
| b) Skewness | <input type="checkbox"/> |
| c) Normal distribution | <input type="checkbox"/> |
| d) None of the above | <input type="checkbox"/> |

Q.2 Measures of dispersion based on all observation is

- | | |
|--------------------------------------|--------------------------|
| a) Range | <input type="checkbox"/> |
| b) Standard deviation | <input type="checkbox"/> |
| c) Mean deviation | <input type="checkbox"/> |
| d) Coefficient of quartile deviation | <input type="checkbox"/> |

Q.3 To present continuous variable graphically we use

- | | |
|------------------------|--------------------------|
| a) Bar diagram | <input type="checkbox"/> |
| b) Histogram | <input type="checkbox"/> |
| c) Sub-divided diagram | <input type="checkbox"/> |
| d) None of the above | <input type="checkbox"/> |

Q.4 Probability of impossible event is ...

- | | |
|--------|--------------------------|
| a) 1 | <input type="checkbox"/> |
| b) 0.5 | <input type="checkbox"/> |
| c) 0 | <input type="checkbox"/> |
| d) -1 | <input type="checkbox"/> |

P.T.O.

- Q.5** Correlation coefficient always lies between
- a) 0 to 1
 - b) -1 to 1
 - c) -0.5 to 0
 - d) -0.5 to 0.5
- Q.6** Variables are ----
- a) The main focus of research in science.
 - b) Something that can vary in terms of precision.
 - c) Something that we can measure
 - d) All of the above
- Q.7** A literature review requires
- a) Planning
 - b) Good and clear writing
 - c) Lots of rewriting
 - d) All of the above
- Q.8** The interview in which questions are already prepared is called
- a) Telephonic interview
 - b) Personal interview
 - c) Unstructured interview
 - d) Structured interview
- Q.9** A study in which quantitative and qualitative data are collected at the same time is a
- a) Concurrent mixed method design
 - b) Mixed method design
 - c) Sequential mixed method design
 - d) Cross –sectional mixed method design
- Q.10** The basis of scientific method is
- a) To test hypotheses in conditions that is conclusive to its success
 - b) To formulate a research problem and disprove the hypothesis
 - c) To formulate a research problem, test the hypothesis in carefully controlled conditions that challenge the hypothesis.
 - d) To test hypotheses and if they are disproved, they should be abandoned completely.

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AND SPEECH LANGUAGE PATHOLOGY**

Day: Tuesday
Date: 03/10/2017

W-2017-3439

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) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Draw neat and labeled diagram **WHEREVER** necessary.
- 5) Answer written in the inappropriate answer books will not be assessed in any case.

SECTION-B

Q.2 Attempt **ANY FIVE** out of SIX **(15)**

- a) Define probability. State two theorems of probability.
- b) Write formula to find spearman's rank correlation Co-efficient. Also find standard deviation of the following observation 2, 3, 6, 8, 9.
- c) From the following information find Karl Pearson's Co-efficient of skewness.
Mean = 56.80, Median = 59.50, S.D. = 12.4
- d) Draw scatter diagram from the following data of height and weight of 10 students.

Height (in inches) X	62	72	68	58	65	70	66	63	60	72
Weight (in kgs) Y	50	65	63	50	54	60	61	55	54	65

Indicate the correlation whether it is positive or negative.

- e) In an experiment on the immunization of goats from Anthrax, the following results were obtained. Derive your inference on the efficacy of the vaccine.

	Died of Anthrax	Survived	Total
Inoculated with vaccine	2	10	12
Not inoculated	6	6	12
Total	8	16	24

- f) Calculate the mode of the following distribution.

X	Below10	10-12	12-14	14-16	16-18	18-20
F	3	15	27	20	3	2

Q.3 Attempt **ANY TWO** out of **THREE:** **(20)**

- a) Ten competitors in a beauty contest are ranked by three judges in the following order.

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

- b) Memory of 10 students was tested before and after training. State whether training was effective or not from the following scores.

Before training	12	14	11	8	7	10	3	0	5	6
After training	15	16	10	7	5	12	10	2	3	8

P.T.O.

- c) Write properties of normal distribution? The mean consumption of food grains among 400 sampled middle class consumers is 380 grams per day per person with a standard deviation of 120 grams. A similar sample survey of 600 working class consumers gave a mean of 410 grams. Are we justified in saying that the two classes consume the same quantity of food grains? (Use 5% level of significance)

SECTION-C

Q.4 Attempt ANY FIVE out SIX

- a) Variables
- b) Ex-post facto research design
- c) Principles of experimental design
- d) Reliability and validity
- e) Importance of ethics in research?
- f) Sampling

Q.5 Attempt ANY TWO out of THREE:

- a) What is good research report? Characteristics of good research report?
- b) What is Research design? Importance of Research design in Research?
- c) What is Research question? Explain different types of data collection?