

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

Day: Monday

Date: 28.05.2018

S-2018-3525

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 The mean of standard normal distribution is...

- a) Less than zero
- b) Equal to zero
- c) Greater than zero
- d) None of the above

Q.2 For chi-square test in 2x2 contingency table degrees of freedom are.....

- a) 4
- b) 8
- c) 1
- d) 12

Q.3 The second quartile is equal to.....

- a) Mode
- b) Median
- c) Arithmetic mean
- d) None of the above

Q.4 The probability of impossible event is equal to....

- a) 0
- b) -1
- c) 0.75
- d) 1

P.T.O.

- Q.5** For symmetric distribution, coefficient of skewness is
- a) Less than three
 - b) Equal to zero
 - c) Greater than one
 - d) None of the above
- Q.6** Which of the following statement is not true?
- a) A research proposal is a document that present a plan for a project.
 - b) A research proposal shows that the researcher is capable of successfully conducting the proposed research proposal.
 - c) A research proposal is an unorganized and unplanned project.
 - d) A research proposal is just like a research report and written before the research project.
- Q.7** The fundamental characteristic of the scientific method is----
- a) Theories
 - b) Empiricism
 - c) Replication
 - d) Evaluating data
- Q.8** 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 hypothesis and if they are disproved, they should be abandoned completely.
- Q.9** Hypothesis cannot be stated in----
- a) Null and questions form terms
 - b) Declarative terms
 - c) General terms
 - d) Directional terms
- Q.10** -----allow a researcher to examine the degree and direction of the relationship between two characteristics or variables.
- a) Correlational designs
 - b) Quasi-experimental designs
 - c) Confounding variables
 - d) Experimental designs

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Day: Monday
Date: 28/05/2018

S-2018-3525

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 cumulative frequency. Write formula to find Karl Pearson's Co-efficient of skewness.
- b) Write short note on 'Testing of Hypothesis'.
- c) Find median of the following data also locate it graphically.

X	0-25	25-50	50-75	75-100
F	30	50	80	40

- d) Distinguish between correlation and regression?
- e) Find out the regression Co-efficient of X on Y and Y on X from the following data?
 $\sum X = 50$ $\bar{X} = 5$ $\sum Y = 60$ $\bar{Y} = 6$ $\sum XY = 350$ $Variance X = 4$
- f) A pharmaceutical firm maintains that the mean time for a drug to take effect is 24 minutes. In a sample of 400 trials, the mean time is 26 minutes with a standard deviation of 4 minutes. Test the hypothesis that the mean time is 24 minutes against the alternative that it is not equal to 24 minutes. Use level of significance of 0.05.

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

- a) The sales data of an item in six shops before and after a special promotional campaign are as under:

Before Campaign	53	28	31	48	50	42
After Campaign	58	29	30	55	56	45

Can the campaign be judged to be success? Test at 5% level of significance.

- b) An experiment with an immunization of cattle from tuberculosis gave the following result.

	Died	Unaffected
Inoculated	12	26
Not inoculated	16	6

Examine the effect of vaccine in controlling susceptibility of tuberculosis.

- c) In reference with 'Testing of Hypothesis' explain following terms.
 - i) Null hypothesis
 - ii) Level of significance
 - iii) Type-I error
 - iv) Type-II error
 - v) Confidence interval

P.T.O.

SECTION-C

Q.4 Attempt **ANY FIVE** out **SIX** **(15)**

- a) Research problem
- b) Importance of ethics in research
- c) Research design
- d) Different methods of data collections
- e) Sampling
- f) Reliability and validity

Q.5 Attempt **ANY TWO** out of **THREE:** **(20)**

- a) Explain report writing techniques? Characteristics of good researcher?
- b) What types of ethical issues faced by researcher in India?
- c) What is sampling? Explain different types of sampling?

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