

Advanced research methodology in speech and hearing

Max marks = 70

Part A

Multiple Choice Questions

1 x 20

1	The assumption of sphericity can be compared to the assumption of:				
a	Homogeneity of variance in between-groups	b	Normality	c	Additivity in linear models
				d	Muticollinearity

2	Which of the following test cannot be used for comparing two related conditions:				
a	Sign test	b	Wilcoxon Signed-rank test	c	Mann-Whitney test
				d	McNemar test

3	The change in the outcome associated with a unit change in the predictor is represented as:						
a	Slope	b	Y-intercept	c	Residual	d	Correlation coefficient

4	The standard deviation of sample means is known as:						
a	Mean deviation	b	Average deviation	c	Standard error	d	Sampling error

5	In ROC, X-axis represents:						
a	Sensitivity	b	1-sensitivity	c	1-specificity	d	Specificity

6	Outliers are those observations that are further away from Q_3 than :						
a	1.5 IOR	b	0.5 IOR	c	0.75 IOR	d	1 IOR

7	Probability of detecting a difference when it is present:						
a	Confidence level	b	Power	c	Type I error	d	Type II error

8	Estimating the overall effect size reported in the literature for a particular treatment is						
a	Scoping review	b	Meta-analyses	c	PRISMA	d	Multivalent research

9	An example of within the subject design is						
a	Pre-post treatment	b	Standard Group	c	Survey	d	Correlational

10	As per ICMR guidelines, retrospective case file analyses are categorized as				
a	Nil risk	b	Minimal risk	c	Less than minimal risk
		d	Minor risk		

11	One of the registries to register systematic reviews and meta-analyses is				
a	PRISMA	b	Google Scholar	c	PubMed
		d	PRSPERO		

12	Which of the following is not a reference manager				
a	Mendeley	b	Zotero	c	APA
		d	Endnote		

13	Which of the following is a single-subject research design				
a	Withdrawal design	b	Bivalent	c	Standard group comparison
		d	RCT		

14	An example of Plagiarism detection software is				
a	Turnitin	b	Zotero	c	Lab manager
		d	Copy check		

15	Which of the following is an example of a random sampling technique				
a	Cluster sampling	b	Quota sampling	c	Convenience sampling
		d	Purposive sampling		

16	Cause-and-effect relationships can be established in				
a	Experimental research	b	Correlational research	c	Case study research
		d	Cross-sectional research		

17	Factorial research design is an example of				
a	Between-group design	b	Within group design	c	Survey research
		d	Longitudinal design		

18	The measure of the frequency with which the average article in a journal has been cited in a particular year				
a	H Index	b	Impact factor	c	SJIP
		d	Cite score		

19	A detailed description of the participants can be found in ----- section				
a	Introduction	b	Results	c	Methods
		d	Discussion		

20	Identify the open-access journal				
a	Ear and hearing	b	JSLHR	c	Frontiers in Neuroscience
		d	Brain and Language		

Part B

Write an Essay on 5 of the following

5 x 10 =50

8. Write an essay on statistical techniques for analysing relationships among variables.
9. Write an essay on statistical techniques for analysing differences in the data
10. Briefly explain various non-parametric tests used in research.
11. Describe the ethical principles advocated in the Helsinki Declaration
12. You are designing treatment efficacy research involving a prolongation technique for adults with stuttering. Highlighting the important points to be considered, write an informed consent form for your research.
13. What is sampling? Describe different sampling techniques
14. Describe the different methods of data collection.