Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER MASTER OF SCIENCE (SPEECH - LANGUAGE PATHOLOGY) DEGREE EXAMINATION - JANUARY 2021
SUBJECT: MSL 601 - SPEECH SCIENCE AND SPEECH PRODUCTION
(2018 SCHEME

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	Describe the relaxation pressure curve and elaborate on the status of lung thoracic unit in relation to lung volume with neat-labelled diagram?	(20)
2)	Explain the acoustic features of stops and nasals using spectrographic measures.	(20)
3A)	Elaborate on the merits and demerits of source filter theory	(10)
3B)	Explain any two methods used in speech synthesis	(10)
3C)	Compare and contrast between stroboscopy and videokymography	(10)
3D)	Recent advances in the applications of acoustic analysis in speech disorders	(10)
4A)	Stress strain principle	(5)
4B)	Spirometry	(5)
4C)	Forensic speech analysis	(5)
4D)	LTAS	(5)

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FIRST SEMESTER M.Sc. IN SPEECH - LANGUAGE PATHOLOGY DEGREE EXAMINATION - JANUARY 2021
SUBJECT: MSL 603 - AUGMENTATIVE AND ALTERNATIVE COMMUNICATION
(2018 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	Discuss the considerations of the assessment team and its impact on the AAC users.	(20)
2)	Describe a plan to guide the clinicians in developing AAC goals	(20)
3A)	Discuss the AAC service delivery models	(10)
3B)	Why are opportunity barrier interventions important in AAC?	(10)
3C)	Explain AAC intervention for individuals with TBI	(10)
3D)	Explain AAC adaptation in different settings.	(10)

4. **Write Short Notes:**

4A)	Speech Generating Devices	(5)
4B)	Visual schedules	(5)
4C)	Communication strategies for Dementia.	(5)
4D)	Rebus and Picsyms	(5)

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Question Paper

Exam Date & Time: 23-Jan-2021 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.O.T./ M.Sc. M.L.T./ M. Opt./ M.Sc. R.T./ M.Sc. ECOCARDIOGRAPHY/M.Sc. CC&IT /M.Sc. M.I.T./M.P.T./M.Sc. E.S.S./ M.Sc. N.M.T./ M.Sc. M.R.P./ M.Sc. RRT&DT/M.Sc. PFT/M.Sc. AUDIOLOGY/M.Sc. (S.L.P.) DEGREE EXAMINATION - JANUARY 2021
SUBJECT: RES 601 - BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY & BIOSTATISTICS/ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODS, EPIDEMIOLOGY & STATISTICS
(2018 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	Erythrocyte Sedimentation Rate (ESR) readings (in mm) of 12 tuberculosis patients are given below: 12 8 11 9 8 14 8 12 8 9 11 10 Calculate coefficient of variation.	(8)

2. Differentiate between the following:

2A)	Ordinal variables and nominal variables.	(4)
2B)	Sampling and non-sampling errors.	(4)
2C)	P value and level of significance.	(4)
2D)	Parameter and statistic.	(4)

3. Explain the following with an example:

3A)	The model used in logistic regression and interpretation of its coefficients.	(4)
3B)	Use of predictive values in validation of a diagnostic test.	(4)

4)	Clearly stating the assumptions and hypothesis, describe parired t test and its non-parametric analogue test.	(8)
5)	Illustrate the procedure of selecting a sample using simple random sampling. Enumerate its uses and limitations.	(6)
6)	Describe the importance of review of literature in the development of a research protocol.	(5)
7)	With the help of a schematic diagram explain prospective cohort study design and its analysis.	(10)
8)	Differentiate between simple and stratified randomization methods with suitable examples.	(6)

9. A random sample of 61 individuals from a population contained 20 smokers.

9A)	What is the standard error of proportion of smokers?	(1)

9B)	Construct a 95% confidence interval for the population prevalence.	(3)
9C)	Give the margin of error.	(1)

10)	A hospital administrator wishes to estimate the mean weight of babies born in the hospital. How large a sample of birth records should be taken if the administrator wants a 95% confidence interval with margin of error of 1.2 kg? Assume that a reasonable estimate of the population standard deviation is 5 kg.	(4)
11)	An epidemiologist compared in a pilot study, a sample of 100 adults suffering from a certain neurologic disease to a sample of 100 comparable controls who were free of the disease. 50 of the adults with the disease and 25 of the controls were involved in industries using a specific chemical. Assuming that the proportion employed in these industries in the entire population is similar to that observed in the pilot study, how many subjects should be studied in each of the two groups to have 80% power of detecting the true difference between the groups if the hypothesis is tested at 5% level?	(4)
12)	Define correlation and give two examples of each of positive and negative correlation. State the range of Pearson's correlation coefficient.	(6)
13A)	Given the mean and standard deviation of weight of new born babies are 2.8 kg and 0.5 kg respectively. Assuming normality, construct the reference range.	(2)
13B)	Draw the normal distribution curve and list its properties.	(4)
14)	Nine laboratory animals were infected with a certain bacterium and then immune-suppressed. The mean number of organisms later recovered from tissue specimens was 6.5 with a standard deviation of 0.6. Can one conclude from these data that the population mean is different from 6? What assumptions are necessary? [$\alpha = 0.05$, $t_{1 - \alpha/2} (8) = 2.31$]	(8)

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FIRST SEMESTER MASTER OF SCIENCE (SPEECH - LANGUAGE PATHOLOGY) DEGREE EXAMINATION - JANUARY 2021
SUBJECT: MSL 605 - NEUROBIOLOGY OF SPEECH LANGUAGE AND COGNITION
(2018 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	How are the mechanisms for SWR different from VWR? Explain with suitable models.	(20)
2)	Explain any TWO neuro-physiological procedures that are used to study the language system. Highlight on its merits and demerits.	(20)
3A)	Explain any TWO theories of aging.	(10)
3B)	How is the representation of a monolingual brain different from a multilingual?	(10)
3C)	Explain the blood supply to the CNS.	(10)
3D)	Describe the Atkinson and Shiffrin's multistore Model.	(10)
4A)	Basal ganglia and motor system	(5)
4B)	Structural changes encountered due to aging	(5)
4C)	Sentence processing	(5)
4D)	Priming as a neurobehavioral task.	(5)

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Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (SPEECH - LANGUAGE PATHOLOGY) DEGREE EXAMINATION - JANUARY 2021
SUBJECT: MSL 607 - CLINICAL LINGUISTICS AND MULTILINGUAL ISSUES
(2018 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	How is Critical period hypothesis applicable to Second language acquisition? Explore the significance of proficiency, native language and dominance when making a rehabilitation plan for multilingual individuals.	(20)
2)	Discuss the various approaches to clinical analysis of discourse. Add examples from your own clinical experience to justify your answer.	(20)
3A)	Critically evaluate the various models that address Second language acquisition.	(10)
3B)	Explain how notions of truth conditionality, deixis and anaphora contribute to discourse processing.	(10)
3C)	Elaborate on any TWO psycholinguistic models of word recognition.	(10)
3D)	Identify the theoretical principles that govern the understanding of disorder of syntax.	(10)
4A)	How are hemispheric differences critical to language processing?	(5)
4B)	How does Sapir-Whorf hypothesis address the relationship between Language and Thought?	(5)
4C)	With the help of suitable examples, explain the notions of language maintenance, shift and death in multilingual societies.	(5)
4D)	List the major language families spoken in India and give an example from each.	(5)

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