MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR M.A.S.L.P. DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: SH 103 – SPEECH SCIENCE AND PRODUCTION
(NEW REGULATION)

Saturday, June 02, 2018

Time: 10:00 – 13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

1A. Explain the various pressures related to the respiratory system.
1B. Compare and contrast two mass model and sixteen mass model.

(6+10 = 16 marks)

OR

2. Enumerate and explain the differences between breathing for life and breathing for speech.

(16 marks)

3. Describe the aerodynamics of speech production in detail.

(16 marks)

OR

4A. Describe the anatomy of articulatory system.
4B. Describe the physiology of resonatory system.

(10+6 = 16 marks)

5. Explain any one model which best describes the speech production process.

OR

6. Explain any one open loop model which states that the organization of articulatory timing is embedded in motor commands specifying complete syllables. Give illustrations.

(16 marks)

7A. Describe the source characteristics associated with vowel production.
7B. Enumerate the advantages and disadvantages of wide and narrow band spectrogram.

(10+6 = 16 marks)

OR

8A. Write a note on waveforms, spectrums and spectrograms.
8B. Describe the acoustic properties of nasals and liquids.

(6+10 = 16 marks)

9A. Discuss the use of spectrography in the field of forensic evaluation.
9B. Discuss the need for Infant cry analysis.

(12+4 = 16 marks)

OR

10A. Describe the advantages and disadvantages of Speech synthesis.
10B. What are the parameters considered in the laughter analysis?

(6+10 = 16 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR M.A.S.L.P. DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: SH 104 – SPEECH AND LANGUAGE PROCESSING
(NEW REGULATION)

Tuesday, June 05, 2018

Time: 10:00 – 13:00 Hrs.   Max. Marks: 80

✎   **Answer ALL the questions.**

1A. Discuss the effect of coarticulation on the perception of vowels.

1B. Describe the perceptual cues for stops and affricatives.

OR

2A. Explain the perception of nasal consonants with recent studies.

2B. Describe briefly the factors affecting consonant perception.

(8+8 = 16 marks)

3A. How does phoneme triggered lexical decision task differ from the lexical decision task? Support your answer with recent evidences.

3B. How are rhyme and word monitoring tasks applicable to study spoken word recognition?

OR

4A. It is important to study the processing of words under noisy conditions. Justify.

4B. Explain the method of tokens embedded in words and non-words. How is it relevant in the field of language processing?

(8+8 = 16 marks)

5. Compare and contrast between the Logogen and the Cohort Model of word recognition.

OR

6. The neighbourhood activation model best explains lexical organization. Explain.

(16 marks)

7. Describe any two models of visual word recognition in detail.

(16 marks)

OR

8A. Explain the models of ambiguity resolution.

8B. Explain discourse comprehension using the construction-integration model.

(8+8 = 16 marks)

9A. Explain talker variability and variability in speaking rate influencing speech perception.

9B. Discuss the prosodic organization in a native language contrasts.

(8+8 = 16 marks)

OR

10. Describe the role of attention and memory in language processing.

(16 marks)

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FIRST YEAR M.A.S.L.P. DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: SH 105 – VOICE AND FLUENCY DISORDERS
(NEW REGULATION)

Thursday, June 07, 2018

Time: 10:00 – 13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL questions.**

1A. Discuss the rationale of clinical assessment of voice and the components it encompasses.

1B. Describe the measurement of the resonatory system.

OR

2A. Discuss the relevance of perceptual evaluation of voice as complementary to acoustic analysis.

2B. Describe the rating scales used in voice analysis with their merits and demerits.

(8+8 = 16 marks)

3A. Discuss the sex hormones with their relation to voice.

3B. Differentiate transsexual types and describe management strategies applicable to one of them.

(6+10 = 16 marks)

OR

4A. Discuss the anatomical and physiological effects of aging on voice.

4B. Explain any one pediatric voice disorder encountered in your clinic.

(8+8 = 16 marks)

5A. Among the three modes of alaryngeal speech modes, the best option would be TEP aided prosthetic speech. Discuss with relevant studies.

5B. Compare preoperative vs postoperative counseling of laryngectomees.

(10+6 = 16 marks)

OR

6A. Discuss the different treatment options for laryngeal carcinoma.

6B. How would you assess the tonicity of the P.E.segment as a prognostic indicator of TE speech?

(6+10 = 16 marks)

7A. Explain the onset and development of stuttering based on classical conditioning principles.

7B. Describe the relationship between stuttering and phonology.

OR

8A. Describe the various management options for psychogenic stuttering.

8B. Add a note on spontaneous recovery in stuttering.

(8+8 = 16 marks)

9A. What is EBP? Explain its steps and importance in stuttering research.

9B. Describe any one instrumental approach used in treatment of stuttering.

OR

10. Explain the areas to be captured during assessment of stuttering with justification.

(16 marks)

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FIRST YEAR M.A.S.L.P. DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: SH 106 – PSYCHOPHYSICS
(NEW REGULATION)

Saturday, June 09, 2018

Time: 10:00 – 13:00 Hrs. Max. Marks: 80

✍ **Answer ALL questions.**

1A. Discuss theory of signal detection.
1B. Discuss the application of theory of signal detection.

OR

2A. Discuss equal loudness curve and its clinical implication.
2B. Discuss any two adaptive procedures of threshold tracking.

(8+8 = 16 marks)

3A. Discuss PTC's. Explain the procedure and characteristics of PTC's in cochlear hearing loss individuals.
3B. Explain temporal masking.

OR

4A. Discuss critical band and ERB scale.
4B. Explain the principle and mechanism behind masking.

(8+8 = 16 marks)

5A. Compare adaptation and fatigue. Discuss the pathophysiology of adaptation.
5B. Explain different levels of adaptation.

(10+6 = 16 marks)

OR

6A. Define temporal processing. Explain the importance of temporal processing in speech perception.
6B. Discuss and two test of temporal resolution in detail.

(6+10 = 16 marks)

7. Write an essay on auditory scene analysis.

(16 marks)

OR

8A. Pitch perception of complex tone is different from that of pure tone, discuss.
8B. Discuss any two theories of pitch perception.

(8+8 = 16 marks)

9A. Differentiate localization and lateralization. Explain factors affecting them.
9B. Explain cone of confusion, minimal audible angle and concurrent minimal audible angle.

(8+8 = 16 marks)

OR

10A. Discuss space perception and factors affecting space perception.
10B. Explain lateralization and cues for lateralization.

(8+8 = 16 marks)

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FIRST YEAR M.A.S.L.P. DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: SH 107 – AUDITORY PHYSIOLOGY
(NEW REGULATION)

Tuesday, June 12, 2018

Time: 10:00 – 13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL questions.**

1.   Write an essay on functions of middle ear.

OR

2.   Explain in detail the anatomy and physiology of tympanic membrane.

(16 marks)

3.   Explain the anatomy and functioning of basilar membrane.

OR

4.   Write a note on cochlear non linearity.

(16 marks)

5.   Write a note on generation, propagation and properties of the auditory nerve.

OR

6.   Explain the structure and content of internal auditory meatus in detail.

(16 marks)

7.   Discuss the physiology of CN in detail.

OR

8.   Discuss the stimulus coding at the level of CN and SOC.

(16 marks)

9.   Explain the physiology of auditory cortex.

OR

10.   Discuss the stimulus coding at the level of auditory cortex.

(16 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

FRIST YEAR MSC. RT / MOPT/MSc. ECG/MSc. CCIT/ MSc. NMT/ MSc. MLT/ MOT/ MSc. RRT & DT/ MASLP

SECOND SEMESTER M.Sc. MRP/MSc. EXERCISE AND SPORTS SCIENCE / M.Sc. MIT/ M.Sc. HIM/M.Sc. CLINICAL PSYCHOLOGY DEGREE EXAMINATION – MAY/JUNE 2018

SUBJECT: ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY / PAPER IV: RESEARCH METHODOLOGY & BIOSTATISTICS / PAPER IV: EPIDEMIOLOGY & BIOSTATISTICS/ PAPER IV: ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY / BIOSTATISTICS / ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY/ ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY/ STATISTICS & RESEARCH METHODS/RESEARCH METHODOLOGY & BIOSTATISTICS / BIOSTATISTICS/ EPIDEMIOLOGY & BIOSTATISTICS / ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY

Tuesday, May 29, 2018

Time: 10:00 – 13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

1A. Define mean, median, mode, standard deviation and coefficient of variation.

1B. What do you mean by simple random sampling? Explain lottery method in simple random sampling with the help of an example.

$$(5+5 = 10 \text{ marks})$$

2A. Write two examples of Poisson random variable. Enumerate the properties of Poisson distribution.

2B. Define sampling distribution, standard error and confidence interval. Write two applications of standard error in inferential statistics.

$$(5+5 = 10 \text{ marks})$$

3A. Briefly explain the steps involved in one way ANOVA.

3B. A research team wants to know the prevalence of anaemia among primary school going children in a rural area in southern India. A previous study conducted few years before in the same population showed that the prevalence of anaemia among primary school children was 15%. What is the minimum sample size required if absolute precision (margin of error) is 3% and confidence level of 95%?

$$(5+5 = 10 \text{ marks})$$

4. Explain the structure of a research thesis.

$$(10 \text{ marks})$$

5. A sample of 160 women between 75 and 80 years old were classified into one of two groups based on whether they took Vitamin E supplements at the time of enrolment. Each woman was subsequently given a test to measure cognitive ability. Higher scores on this test indicate better cognition. The average test score amongst 60 women taking vitamin E was 27 with standard

deviation of 6.9 as compared to a mean score of 24 with a standard deviation of 6.2 among 100 women not taking the supplements. The research team wants to know whether the mean scores differ significantly between the two groups.

i)   Name the statistical test used for comparing the mean scores between the two groups.
ii) What are the assumptions for this test?
iii) State the null and alternate hypothesis for this test?
iv) Compute the test statistic for this test.
v)   State whether the test is one sided or two sided test. Justify your answer.

(1+2+2+4+1 = 10 marks)

6.   Explain the design, measure of strength of association, strength and weakness of cohort study design.

(10 marks)

7.   **Write short notes on:**

7A. Wilcoxon signed rank test
7B. Cross sectional study design
7C. Logistic regression
7D. Validity of diagnostic tests

(5 marks × 4 = 20 marks)

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✍ **Answer Any FIVE questions.**

1. Elaborate on semantic field and mental lexicon

                                                                                                            (16 marks)

2. What do you mean by discourse ability? Explain.

                                                                                                            (16 marks)

3. What aspects of language are affected if right brain is damaged?

                                                                                                            (16 marks)

4. Write a review of Biological Maturation Theory and Cognitive Theory of language acquisition.

                                                                                                            (16 marks)

5. What is socio-linguistics? Discuss its scope.

                                                                                                            (16 marks)

6. "Clinical linguistics is the study of application of linguistics in a clinical situation." Elaborate
                                                                                                            (16 marks)

7. **Write short notes on Any FOUR of the following:**
7A. Antonyms
7B. Entailment
7C. Deixis
7D. Cohesion
7E. Critical period hypothesis
7F. Bilingualism and Cognition

                                                                                    (4 marks × 4 = 16 marks)