Reg. No.										

MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: INTRODUCTION TO SPEECH AND LANGUAGE PATHOLOGY (B.1.1.1)

Thursday, June 07, 2007

Time: 3 Hrs. Max. Marks: 80

Question no. 1 is compulsory. Answer any FOUR from the rest.

1A. Fill in the blanks:

i) Age range specified in REEL scale is ___.
ii) HRA voice prosthesis is developed by ___, __ and ___.
iii) A subcategory of a parental language is ___.
iv) ___ and ___ sounds are commonly affected in Bell's palsy.
v) ___ is a computerized voice analysis system.
vi) Fast rate of speech is also known as ___.
vii) A substitution process which is developmentally normal with respect to articulation is termed as ___.

(10 marks)

1B. Differentiate:

i) Normal nonfluency vs stuttering.
ii) Sound acquisition before 3 years vs after 3 years.
iii) Normal voice vs mutational voice.

(2×3 = 6 marks)

2A. Define language.
2B. Describe the various components of language.
2C. What are the different basis of speech and language? Explain in brief.

(2+8+6 = 16 marks)

3A. Describe the physiology of voice production.
3B. Briefly describe the various cartilages of larynx.

(10+6 = 16 marks)

4A. What are the different areas in the brain important for speech and language skills? Describe with a neat diagram.
4B. Write a note on subcortical structures.

(10+6 = 16 marks)

5A. What is misarticulation? Explain the different types of misarticulation.
5B. What are the causes of articulation disorders?
5C. Briefly explain the OSME procedure.

(6+6+4 = 16 marks)

6. Write short notes on:
6A. Mental retardation.
6B. Source filter theory
6C. Language in preschool children
6D. Speech assessment.

(4×4 = 16 marks)

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MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: INTRODUCTION TO AUDIOLOGY (B.1.2.1)

Friday, June 08, 2007

Time: 3 Hrs. Max. Marks: 80

Answer FIVE questions in all. Question no. 1 is compulsory.

1A. Fill in the blanks.

i) Threshold measurements that are obtained by delivering the stimuli through ear phones are known as.....

ii) Localization of low frequency sounds depends primarily on ..... cues.

iii) Pitch is the psychological correlate of .....

iv) Middle ear muscle reflexes are mediated in the CNS at the .....

v) If the transformer action of the middle ear is absent we would expect a hearing loss of about .....

vi) If you double the pressure you will add .....dB.

(1×6 = 6 marks)

1B. Write in not more than two sentences.

i) Tectorial membrane ii) Round window iii) Carhart

iv) RETSPL v) Audiogram

(2×5 = 10 marks)

2A. Differentiate MAP vs MAF, Explain the "Missing 6 dB phenomenon".

2B. Discuss the classification of audiometers.

(8+8 = 16 marks)

3. Discuss the factors affecting air conduction threshold.

(16 marks)

4A. What is calibration? Write a note on biological calibration.

4B. Critically evaluate the theories of bone conduction.

(8+8 = 16 marks)

5. Discuss the role of inner ear in hearing.

(16 marks)

6. Differentiate with respect to clinical masking.

6A. AC vs BC

6B. Plateau vs. Katz method

6C. NBN vs Speech noise

6D. TDH vs. ER-3A

(4×4 = 16 marks)

7. Write short notes on any **FOUR**:

7A. Stenger test

7B. Conversational voice test

7C. Alport syndrome

7D. Auditory neuropathy

7E. Meniere's disease.

(4×4 = 16 marks)

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MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: BASIC HUMAN ANATOMY AND PHYSIOLOGY

Saturday, June 09, 2007

Time: 3 Hrs. Max. Marks: 80

- **ANSWER SECTIONS – A AND B IN TWO SEPARATE ANSWER BOOKS.**
- **Draw diagrams and flow charts wherever appropriate.**

SECTION – A: ANATOMY: 40 MARKS

1. Describe the lateral wall of the nasal cavity in detail.

(10 marks)

2. Write briefly on:
2A. Organ of corti.
2B. Cortical functional areas.

(5×2 = 10 marks)

3. Write short notes on:
3A. Posterior crico-arytenoid muscle.
3B. Ear ossicles.
3C. Development of tongue.
3D. External acoustic meatus.
3E. Right atrium.

(4×5 = 20 marks)

SECTION – B: PHYSIOLOGY: 40 MARKS

4. Write short notes on:
4A. Actions of thyroid hormones.
4B. Spermatogenesis.
4C. Phases of gastric secretion.
4D. Glomerular filtration.
4E. Neuromuscular transmission.

(5×5 = 25 marks)

5. Write brief answers to the following:
5A. Name two hormones released from posterior pituitary.
5B. List any two functions of hypothalamus.
5C. What is myelin sheath? Mention its function.
5D. Name two bleeding disorders.
5E. List two features of diabetes mellitus

(2×5 = 10 marks)

6. Indicate whether the following statements are True or False against each of the statements:
6A. Deficiency of cotisol leads to diabetes insipidus.
6B. Noradrenaline is the neurotransmitter involved in parasympathetic nervous system.
6C. Erythropoietin increases red blood cell production.
6D. Individuals with blood group O contain antigen A and B on their red cell membrane.
6E. A V node is the pacemaker of human heart.

(1×5 = 5 marks)

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MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: BASIC ACOUSTICS AND ELECTRONICS (B.1.3.2)

Monday, June 11, 2007

Time: 3 Hrs. Max. Marks: 80

- **ANSWER SECTIONS A & B IN TWO SEPARATE ANSWER BOOKS.**
- **Answer ALL questions. Draw diagrams and flow charts wherever appropriate.**

SECTION – A: BASIC ACOUSTICS : 40 MARKS

1. Fill in the blanks:

1A. The medium particles vibrate _____ to the direction of propagation in case of transverse waves.

1B. _____ force is responsible for an oscillating body to approach equilibrium.

1C. Pressure waveform _____ particle displacement waveform by _____.

1D. An increase in sound pressure by a factor 5 : 1 corresponds to an increase in sound intensity by a factor _____.

1E. Decibel can also be defined as 20 times log of a _____ ratio.

1F. Saw tooth wave consists of frequency components that are _____ multiples of fundamental frequency.

1G. Narrowly tuned systems are associated with _____.

1H. Noises and musical notes can be differentiated based on _____.

1I. Force of elasticity is zero when the displacement is _____.

1J. As the sound intensity is doubled, the level is increased by _____.

(1×10 = 10 marks)

2. Answer any **TWO** of the following:

2A. Explain the term acoustic impedance. Draw phase diagram showing the impedance vector resulting from compliant reactance, mass reactance and resistance. What is the magnitude of the impedance vector?

2B. Explain the wave form and amplitude spectrum of a pulse train. What is white noise? Write the waveform and amplitude spectrum for white noise.

2C. Explain how stationary waves are produced. State the two differences between stationary and progressive waves. For a stretched string attached at either end to pegs, write the expression for frequency for n^{th} mode of vibration. What is the expression for fundamental frequency for a stretched string in terms of length of the string, tension and cross-sectional mass?

(5×2 = 10 marks)

3. Answer any **FIVE** of the following:

3A. i) State Fourier's theorem, ii) Distinguish between line spectra and continuous spectra.

3B. i) If the SPL at a distance of 100 m is 80 dB what is the SPL at a distance of 850 m?

ii) Write the equation for the period (T) of the pendulum with symbols/notations explained. How does frequency varies with length of the pendulum?

3C. Give an account of anechoic sound isolated rooms – Explain with examples the dependence of absorption coefficient on the frequency of the incident sound wave and the nature of the materials.

3D. Define force, pressure, energy, work and power with proper units in SI system.

3E. i) Define the following: a) peak – peak amplitude b) rms amplitude

ii) Define wavelength (λ) of a sinusoidal wave. Write the expression for λ in terms of speed of sound (s) and frequency (ν).

3F. i) Write the expression for acoustic impedance in terms of ambient density and speed of sound. What is the relationship between intensity, rms pressure and acoustic impedance?

ii) Calculate the total SPL that results from combining one source that produces 90 dB SPL with a second source that produces 80 dB SPL. Given $\log_{10}1.1 = 0.0413$

3G. i) Write a note on sonic booms.

ii) Explain briefly the important requisites of a good auditorium.

(4×5 = 20 marks)

SECTION – B : BASIC ELECTRONICS: 40 MARKS

4. Fill in the blanks:

4A. Pure semiconductor is called _____

4B. When the voltage across a capacitor is constant, the current through it is _____

4C. A filter which passes the signal of frequencies from DC to 500Hz is called _____

4D. Transistor is a _____ controlled device.

4E. The depletion region consists of _____, _____ and _____

4F. Parallely connected inductor and capacitor form a _____ circuit.

4G. The audio signal is input to a coil in the loud speaker known as _____

4H. For a flat frequency response, the recording should use the _____ technique.

4I. A microphone which is equally sensitive in all direction is called _____

4J. The sweep signal is connected to the _____ plates of the cathode ray oscilloscope.

(1×10 = 10 marks)

5. Answer any **FIVE** of the following:

5A. Draw and explain the V-I characteristics of a p-n junction diode.

5B. Explain bridge rectifier with capacitor filter circuit indicating both input and output waveforms.

5C. Draw and explain the operation of common emitter amplifier. Give the function of each component used in it.

5D. With a neat block diagram explain the working principle of hearing aid.

5E. Describe the steps adopted in the fabrication of IC.

5F. Explain the construction and working of carbon microphone. Explain impedence and directionality characteristics of a microphone.

5G. Write short notes on: i) Cathode ray tube (CRT) ii) Zener diode

(6×5 = 30 marks)

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MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: INTRODUCTION TO LINGUISTICS (B.1.3.3)

Tuesday, June 12, 2007

Time: 3 Hrs. Max. Marks: 80

1. 'Language is not a substance but it is a form' – Explain.

OR

What is Phrase Structure Grammar? What are its demerits?

(10 marks)

2. What are the uses of studying linguistics?

OR

What is componential analysis? Explain with examples.

(10 marks)

3. How are vowels produced? How do you classify them? What are cardinal vowels?

OR

Explain the following with examples:

i) Juncture ii) Rhythm

iii) Assimilation iv) Elision

(10 marks)

4. What is phonology? What is a distinctive feature?

OR

Draw a clean diagram of speech organs and explain how they are useful in producing English phonemes.

(10 marks)

5. Write short notes on any **SIX**:

5A. Syllables

5B. idioms

5C. Intransitive verbs

5D. Creole

5E. Normative grammar

5F. Stylistics

5G. Central diphthongs

5H. Nasal sounds

5I. Elision

5J. I P A symbols.

(3×6 = 18 marks)

6. Give short answers and differentiate:

6A. Active and Passive articulators

6B. Paradigmatic and syntagmatic relationship

6C. Hard palate and soft palate

6D. Aspirated and unaspirated consonants

(1×4 = 4 marks)

7. Write whether the following statements are true or false:

7A. The two English words son and sun constitute a minimal pair.

7B. In English /tʃ/ and /dʒ/ are two different phonemes.

7C. Examination has five syllables in it.

7D. Orthographic ng is always pronounced /ŋ/

7E. In R P /r/ does not occur finally in a word.

7F. Cardinal vowel one (C1), represented by /i/, is front high back vowel.

7G. In a triphthong three vowels are involved.

(1×7 = 7 marks)

8. Fill in the blanks with suitable words:

8A. The maximum cluster of consonants in an initial position in English is _____.

8B. _____ is voiced dental fricative.

8C. The back of the tongue is known as _____.

8D. Short vowels and long vowels are called _____.

8E. The study of speech sounds is _____.

(1×5 = 5 marks)

9. Transcribe the following phonemically using BBC pronunciation:

9A. sight

9B. owl

9C. stop

9D. nose

9E. red

9F. town

9G. crossed

9H. gold

9I. chain

9J. jug

9K. father

9L. ear

(½×12 = 6 marks)

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MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – JUNE 2007

SUBJECT: PSYCHOLOGY RELATED TO SPEECH AND HEARING (B.1.3.4)

Wednesday, June 13, 2007

Time: 3 Hours Max. Marks: 80

✍ **Answer any EIGHT of the following. All questions carry equal marks.**

1. Briefly outline the classification of psychiatric disorders and bring out its significance in the treatment of speech related disorders.

2. What is normality? Evaluate the Indian and Western concepts of normal behaviour.

3. Describe Piaget's model of cognitive development.

4. Discuss any two theories of language development. Examine how far these theories are helpful in explaining the development of language.

5. Describe any three models of mental disorders.

6. What is learning? Explain any two types of learning.

7. Briefly outline the psychosocial theory of personality development.

8. Examine the major types of neurotic disorders.

9. Describe the salient features of social development in early and late childhood.

10. Write short notes on any **TWO** of the following:

10A. Moral development.

10B. Observation method.

10C. Personality assessment.