MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009

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

Wednesday, August 05, 2009

Time: 10.00-13.00 Hrs.   Max. Marks: 80

✍ **Question No. 1 is compulsory. Answer any FOUR from the rest.**

1A. **Fill in the blanks:**
    i)   Supplementary motor area is located in _____ lobe.
    ii)   Lengthening of the vocal tract results in _____ of formant frequency.
    iii) Pitch drop in males during puberty is approximately _____ octave.
    iv) Cycle to cycle variation in intensity is termed as _____.
    v)   Short frenulum is also known as _____.
    vi) Important clinical feature of cluttering is _____.
    vii) Apraxia is a disorder of _____.
    viii) Interarytenoid muscle helps in _____ of vocal folds.
    ix) Mongoloid features are observed in _____ Syndrome.
    x)   Cartilages of larynx start ossifying at _____ age.

1B. Write in not more than 2 – 3 sentences.
    i)   Normal Nonfluency
    ii)   Phonological processes
    iii) Mutation of voice

$(10+(2\times3) = 16$ marks$)$

2A. What are the various muscles of inhalation and exhalation and explain how they help in changing various dimensions of thorax?

2B. Differentiate between speech breathing and quite breathing.

$(10+6 = 16$ marks$)$

3A. Write a note on development of voice.

3B. Describe in brief the stages of phonological development during infancy.

$(8+8 = 16$ marks$)$

4A. Define aphasia.

4B Write a note on causes and characteristics of aphasia.

4C. Differentiate between aphasia and dysarthria.

$(2+8+6 = 16$ marks$)$

5A. Briefly discuss the speech and language characteristics of children with hearing impairment.

5B. Describe the prerequisites for language development.

$(8+8 = 16$ marks$)$

6. Write short notes on:

6A. Types of Diagnosis
6B. Lung volumes
6C. Misarticulation
6D. Theories of language acquisition.

$(4\times4 = 16$ marks$)$

✿✿✿✿✿

MANIPAL UNIVERSITY
FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009
SUBJECT: BASIC ACOUSTICS AND ELECTRONICS (B.1.3.2)
Thursday, August 06, 2009

Time: 10.00-13.00 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 sound detected by the ear and microphones is because of the _____ change and not because of the displacement change.

1B. Natural frequency of vibration of a loaded spring varies directly as the square root of the spring constant and inversely as the square root of _____.

1C. The velocity of the particle executing simple harmonic motion is _____ at its equilibrium position.

1D. $\log_2 8 =$ _____. Given: Given: $\log_{10} 8 = 0.9031$

1E. Doubling the sound pressure is an increase of _____ dB, while doubling the sound power is an increase of _____ dB.

1F. The harmonics of the triangular wave are _____ integer multiples of fundamental frequency.

1G. Systems that produce frequency distortion are _____.

1H. The rate at which the periodic increases and decreases in amplitude occur is called _____.

1I. To a listener in motion away from a stationary source a _____ pitch is heard.

1J. Tuning fork is a _____ damped narrowly tuned elastic system.

$(1 \times 10 = 10 \text{ marks})$

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

2A. Distinguish between noise and musical sound. Explain the characteristics of speech sound/musical sound.

2B. Explain giving examples, how the total SPL that results by combining sources of
  i)   equal intensity
  ii) unequal intensities, are calculated.

2C. i)   Explain pressure spectrum level
  ii) A white noise signal has a bandwidth of 9000 Hz and an overall level of 72 dB SPL. What is the pressure spectrum level? Given: $\log_{10} 3 = 0.4771$.

$(5 \times 2 = 10 \text{ marks})$

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

3A   What are the properties of the transmitting medium? Define longitudinal wave motion. Explain the effect of friction on vibrating motion.

3B. Show that simple harmonic motion is the projection of uniform circular motion.

3C. Draw a neat diagram for the variation of average range of sound levels with frequency (in Hertz) for human hearing. Based on this, explain threshold of hearing and threshold of pain.

3D. Explain the effects of variations in the starting phase on the shape of complex wave that results from summation of sine waves.

3E. Explain the following parameters of a filter with suitable filter curves.
   i)   natural frequency (f_c),
   ii) upper cut off frequency (f_u),
   iii) lower cut of frequency (f_l),
   iv) band width (Δf)

3F. Explain inverse square law for the propagation of sound energy in a free unbounded medium. Write the equation for inverse square law in dB.

3G. Explain how the energy and momentum of a simple pendulum varies during slow motion oscillation.

$(4 \times 5 = 20 \text{ marks})$

SECTION – B : BASIC ELECTRONICS: 40 MARKS

4.   Fill in the blanks:

4A. _____ is the product of power and time.

4B. For D.C. voltage capacitor acts as _____ circuit.

4C. An Oscillator is an electronic circuit which converts _____ energy into _____ energy with no external input.

4D. _____ are used to divert low audio signals to woofers, middle-range frequencies to mid range speakers and high frequencies to tweeters.

4E. Class D amplifiers are also called _____.

4F. The _____ microphone generates a continuous hiss.

4G. _____ system is generally used to accurately record the low frequency signals.

4H. The sampling frequency is greater than twice the _____ frequency component present in a complex signal.

4I. In _____ modulation carrier frequency is varied in accordance with the modulating signal.

4J. The average time taken to read a unit of information from the memory is called _____.

$(1 \times 10 = 10 \text{ marks})$

5.   Answer any FIVE of the following:

5A. Discuss the various levels of integration in ICs. Also list the advantages of ICs over discrete components.

5B. With a neat diagram, explain the working of CRO.

5C. With a neat block diagram explain three channel compression hearing aid.

5D. With a neat diagram explain how does a tape recorder system works.

5E. With relevant waveforms compare Amplitude modulation with Frequency modulation.

5F. Explain sensitivity, frequency response, impedance and directionality characteristics of microphones.

5G. With relevant sketches explain the working principle of oscillator. Mention the advantage of crystal oscillator.

$(6 \times 5 = 30 \text{ marks})$

꧁꧂

MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009

SUBJECT: BASIC HUMAN ANATOMY AND PHYSIOLOGY

Friday, August 07, 2009

Time: 10.00-13.00 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 cavity of the larynx in detail.

(10 marks)

2. Write briefly on:
2A. Development of face and its anomalies
2B. Spinal cord

(5×2 = 10 marks)

3. Write short notes on:
3A. Medial wall of the middle ear
3B. Cricothyroid muscle
3C. Synovial joint
3D. Palatine tonsil
3E. Middle meatus of nose

(4×5 = 20 marks)

SECTION – B: PHYSIOLOGY: 40 MARKS

4. Essay questions:
4A. Name the major plasma proteins and mention their functions.
4B. Draw a neat labeled diagram of the dorsal column pathway. Mention any five sensations carried by this pathway.
4C. Explain the regulation of blood pressure by baroreceptor mechanism.
4D. Name the hormones of anterior pituitary. Mention the functions of any TWO hormones.

(5×4 = 20 marks)

5. Write short answers for the following:
5A. List four differences between the first and second heart sounds.
5B. Mention two functions of aldosterone.
5C. Mention two factors affecting spermatogenesis.
5D. Describe the micturition reflex.
5E. Mention any four effects of sympathetic nervous system.
5F. Draw a neat labeled diagram of a monosynaptic reflex arc.
5G. Mention the functions of platelets.
5H. List any TWO differences between skeletal and smooth muscles.
5I. Describe the pharyngeal stage of deglutition.
5J. What is alveolar ventilation? Mention its normal value.

(2×10 = 20 marks)

MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009

SUBJECT: INTRODUCTION TO AUDIOLOGY (B.1.2.1)

Saturday, August 08, 2009

Time: 10.00-13.00 Hrs.   Max. Marks: 80

✍ **Answer any FIVE questions. Question no. 6 is compulsory**

1A.   Differentiate:

   i)   Biological Vs objective calibration

   ii)   Puretone Vs complex tone

   iii)   Monoaural Vs Binaural hearing

   iv)   A Vs B Vs C weighting network

   v)   Qualitative Vs quantitative hearing tests

   vi)   MAP Vs MAF

   vii)   Carhart's notch Vs Boiler's notch

   viii) Ten fold change in power Vs Pressure

   ix)   Cochlear Vs Vestibule

   x)   Artificial ear Vs artificial mastoid

                                                      (1×10 = 10 marks)

1B.   Write the principle behind:

   i)   ABC

   ii)   SAL

   iii)   Audiometric zero

   iv)   Weber test

   v)   Tolerance problem

   vi)   Inertial bone conduction

                                                      (1×6 = 6 marks)

2.   Describe the purpose, types and merits of expressing intensity of sound in dB. Use appropriate examples to substantiate your explanation.

                                                      (16 marks)

3A.   'The middle ear recovers about 30 dB which theoretically could have been lost by the impedance mismatch between air and the inner ear fluids'. Explain.

3B.   Draw a schematic diagram of the ascending auditory pathway and label the parts.

                                                      (12+4 = 16 marks)

4A.   How would you audiologically differentiate the different types of hearing loss (nature and subtypes)? Use appropriate diagrams to document your answer.

4B.   Describe the masker available in you clinical audiometer.

                                                      (12+4 = 16 marks)

5A. What are the different types of calibration and how are they different?

5B. Using a suitable block diagram explain the AC output intensity calibration.

5C. At a setting of 1 kHz and 70 dB, the output of your audiometer is 77 dBSPL. Is the audiometer in calibration? If not, what is the correction factor that you would employ?
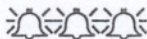
$$(4+8+4 = 16 \text{ marks})$$

6A. Discuss the methods to obtain the threshold of audibility.

6B. List the factors affecting Puretone thresholds.

$$(8+8 = 16 \text{ marks})$$

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

7A. Sound treated Audiometric booth

7B. Masking dilemma

7C. Cochlear potentials

7D. Earphones

7E. Barotrauma.

$$(4 \times 4 = 16 \text{ marks})$$

MANIPAL UNIVERSITY
FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009
SUBJECT: INTRODUCTION TO LINGUISTICS (B.1.3.3)

Monday, August 10, 2009

Time: 10.00-13.00 Hrs.   Max. Marks: 80

1. **Answer any FOUR of the following.**

1A. What are the main differences between the animal communication and human communication?

1B. What do the following mean?

    i)   Language is not a substance. It is a form.

    ii)   Language is a system of systems.

    iii) All languages change in due course.

    iv)   Linguistics is different from Normative grammar.

1C. What is meant by derivational and inflectional morphology? Explain with examples.

1D. What are consonants? How are they articulated? Describe the place and manner of articulation of these consonants.

1E. What is meant by allophones? State the allophonic variants of English phonemes / p, t, k, l, r, s, z / and / d /.

1F. What is semantics? Explain briefly what the following are giving suitable examples.

    i)   polysemy   ii)   antonymy   iii)   synonymy   iv)   idioms

                                                                    (10×4 = 40 marks)

2. **Write short notes on any EIGHT of the following.**

2A. monophthongs

2B. form words and content words

2C. Socio linguistics

2D. diglossia

2E. rising intonation

2F. competence and performance

2G. syllabic consonants

2H. transitive and intransitive verbs

2I. Iarynx

2J. stylistics

                                                                    (2½×8 = 20 marks)

3. **Identify the True and False statements among the statements given below.**

3A. There are six stop phonemes in English phonemic system.

3B. In the English word please, the vowel is long high vowel.

3C. Where and wear are homophones.

3D. When articulating/ f / in laugh, the vocal cords do not vibrate.

3E. / eɪ / in lady is a central diphthong.

3F. When a syllable ends with a consonant, it is termed closed diphthong.

3G. 'Where do you live?' is often spoken in a falling intonation.

3H. 'One thing at a time' is a minor sentence.

3I. 'She was shock<u>ed</u>' the underlined letters is an allomorph.

3J. The two letter combination <u>ng</u> is always pronounced / ŋ / wherever it occurs.

<div align="right">(½×10 = 5 marks)</div>

4. **Fill in the blanks using the right word.**

4A. _____ all the three are known as semi-vowels or approximants.

4B. <u>Rumour</u> and _____ constitute a pair of minimal contrast.

4C. _____ is a group of words with no finite verb in it.

4D. '<u>Some</u> members failed to turn up at the meeting'. The word underlined is a _____.

4E. If three consonants cluster initially, the first consonant should always be _____.

4F. When _____ is used by a large number of users, it becomes a standard language.

4G. The velum is placed between hard palate and _____.

4H. /s z ∫ ʒ t∫ / and /dʒ/ are termed _____.

4I. There are _____ nasal phonemes in English phonemic system.

4J. A prepositional phrase begins with a _____.

<div align="right">(½×10 = 5 marks)</div>

5. **Put the following into phonemic symbols.**

5A. knock

5B. lunch

5C. signs

5D. failed

5E. wanted

5F. change

5G. button

5H. building

5I. figure

5J. view

<div align="right">(½×10 = 5 marks)</div>

6. **Match the following.**

6A. h<u>u</u>nter	syllabic consonant
6B. ch<u>oo</u>se	adjective
6C. stop	long vowel
6D. b<u>eau</u>ty	elision
6E. <u>ch</u>ain	consonant cluster
6F. <u>tr</u>uth	plosive
6G. describing word	semi-vowel
6H. ba<u>d</u> day	affricate
6I. bus	low central vowel
6J. batt<u>le</u>	free morpheme

<div align="right">(½×10 = 5 marks)</div>

꽃꽃꽃

MANIPAL UNIVERSITY

FIRST YEAR B.A.S.L.P. DEGREE EXAMINATION – AUGUST 2009

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

Tuesday, August 11, 2009

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

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

1. Elaborate on the stages of language development.

2. Define learning and discuss the classical conditioning model.

3. What is the scope of psychological assessment? Outline the various tests of Intelligence.

4. Discuss the importance of psychosocial rehabilitation.

5. Elaborate on Erikson's psychosocial theory.

6. Highlight Physical development during early childhood and adolescence.

7. Discuss any three techniques in behavior therapy.

8. Discuss Piaget's stages of cognitive development.

9. Describe the clinical features of any two neurotic disorders.

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

10A. Projective tests

10B. Case history method

10C. Disability acts.