

**OC 010 (Sp & Hg)**

III Semester B.Sc. Examination, November/December 2005  
(Integrated Scheme)  
Speech and Hearing  
Maxillofacial Anomalies and Laryngectomy

Time: 2 Hours

Max. Marks : 50

**Instruction** : Answer all the questions.

- I. 1) Describe the embryological development of palate. 10  
**OR**
- 2) Describe the various classification of cleft palate with suitable illustration, 10
- II. 3) "Hyper Nasality is not an articulatory problem" - Discuss. 10  
**OR**
- 4) Describe the associated problems seen in children with cleft palate. 10
- III. 5) Describe in detail the surgical and prosthetic management of children with submucous cleft. 10
- 6) Write a note on : 10  
a) Articulatory deficits in glossectomees.  
b) Speech Obturator.
- IV. 7) List the symptoms of Cancer of  
a) Define laryngectomee. 8  
b) (Larynx and the steps for prevention of cancer larynx. 2  
**OR**
- 8) List the advantages and disadvantages of : (5+5=10)  
a) artificial laryx  
b) esophageal speech
- V. 9) Describe the acoustic characteristics of TEP speech using Blomsinger's prosthesis. 10  
**OR**
- 10) Write a note on : (5+5=10)  
a) Gastic speech.  
b) Pre-operative counselling.
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# OC 020 (Sp & Hg)

## III Sem. B.Sc. Examination, Nov./Dec. 2005 (Scheme: Integrated Semester) Speech and Hearing Phonological Disorders

Time : 2 Hours

Max. Marks : 50

*Instruction: Answer all the questions.*

- I. 1. a) Classify speech sounds on the basis of place of articulation. 6  
b) Draw a neat diagram of speech mechanism showing the positioning of articulators for the production of [k] and [l]. 4
- OR
2. Describe the stages of phonological development. 10
- II. 3. Describe the distinctive feature system proposed by Chomsky and Halle. 10
- OR
4. a) Describe the acoustic characteristics of stop consonants. 8  
b) Define formants. 2
- III. 5. a) Define misarticulation. 2  
b) What are the causes of misarticulation in children ? 8
6. Differentiate between phonetic and phonological disorders with examples. 10
- IV. 7. a) Describe a protocol for examination of peripheral speech mechanism. 8  
b) What is the importance of examination of oral speech mechanism in ankyloglossia ? 2
- OR
8. Describe the articulatory and prosodic errors seen in children with Hearing Impairment. 10
- V. 9. "Therapy for phonetic and phonologic disorder is same". Critically evaluate the statement. 10
- OR
10. Write short notes on: (5+5=10)  
a) Minimal pair therapy  
b) Phonetic placement technique.

# OC 030 (Sp & Hg)

III Sem. B.Sc. Examination, Nov./Dec. 2005

(Integrated Semester Scheme)

Speech and Hearing

Diagnostic Audiology Behavioural Test

Time : 2 Hours

Max. Marks: 50

- I. 1) Discuss the need for a test battery approach in evaluating the hearing of individuals with a hearing impairment. 10  
OR
- 2) What are the indications to suspect that a child has an auditory processing disorder ? 10
- II. 3) How is Bekesy audiometry different from Brief tone audiometry ? Discuss the importance of Brief tone audiometry. 5+5  
OR
- 4) a) Name the tests to detect cochlear pathology. 2  
b) Describe briefly one test for cochlear. Justify your choice. 8
- III. 5) Informal speech test is a better way to predict threshold in cases with pseudohypoacusis. Discuss. 10  
OR
- 6) Discuss the sensitivity of pure tone and speech tests used to detect Pseudohypoacusis. 10
- IV. 7) What is redundancy ? What do you understand by external and internal redundancy and how can they affect the assessment of APD ? 10  
OR
- 8) a) Compare and contrast dichotic and diotic tests. 4  
b) Justify the importance of dichotic tests in the identification of APD. 6
- V. 9) How do subject related variables influence central auditory assessment ? How do you minimize or overcome such influences ? 10  
OR
- 10) Discuss the similarities and differences between APD test results in children and the elderly. 10
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# OC040(Sp&Hg)

III Semester B.Sc. Examination, Nov./Dec. 2005

(Integrated Semester Scheme)

Speech and Hearing  
Educational Audiology

Time: 2Hours

Max. Marks: 50

- I. 1) Describe any one system of classification of hearing loss. How can it be used in defining rehabilitation goals ? (5+5)  
(OR
- 2) Discuss the importance of early identification of hearing loss. 10
- II. 3) Describe the principles of the Acoupedic approach. 10  
OR -
- 4) How does total communication differ from other manual forms of communication ? 10
- III. 5) Briefly describe the Fitzgerald Key. What is its importance in the present day? (5+5)  
O R
- 6) What are the limitations of "structured method" of teaching language to the hearing impaired ? 10
- IV. 7) Describe with examples, the different educational placement options that are available for the hearing impaired in India. 10  
OR
- 8) Describe the "Sarva Siskshan Abhyan" program. How has this incorporated the features of integrated education for the hearing impaired ? 10
- V. 9) Write an essay on the problems faced by the hard of hearing in India in their education. 10
- 10) List 20 tips that you would give a teacher in a normal school on managing a child with a hearing impairment who has been admitted to her class. 10
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OC 050 (Sp & Hg)

III Semester B.Sc. Examination, Nov./Dec. 2005  
(Integrated Semester Scheme)  
Speech and Hearing  
Biomedical Instrumentation and Acoustics

Time: 2 Hours

Max. Marks: 50

**Instruction:**

*Answer all questions.*

- I. 1. a) What is the function of a transistor in a hearing aid circuit ? 4  
b) What are the characteristics of a speech signal ? 3  
c) What are the advantages of FET amplifiers over transistor amplifiers ? 3  
OR
2. a) Which type of stabilizer will you prefer to connect to all equipments in your clinic ? Explain the working of a stabilizer. 4  
b) Why do we require a regulated DC power supply inside an audiometer ? 3  
c) "It is not advisable to connect a personal computer to an inverter". Explain why ? 3
- II. 3. a) Which type of loudspeaker is used as a hearing aid receiver ? Explain the construction and working of that loudspeaker. 4  
b) List out the essential requirements of a microphone which you use in testing speech discrimination. 4  
c) Distinguish between sound pressure level and sound power level. 2
4. a) Discuss the advantages of optical recording over magnetic recording. Which type of recording will you prefer for recording of speech ? Why ? 4  
b) What are the conditions under which an object can reflect sound ? 2  
c) Define Reverberation time. Write the different formulae used for the calculation of reverberation time. 4

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- III. 5. a) Explain how does a flip flop works as a memory device. 4  
b) Write the truth table of a NOR gate. 2  
c) Convert the following decimal numbers first to binary and then to
- i) 98                                  ii) 384
- OR**
6. a) Distinguish between a hard disk and a RAM. Briefly explain the functions performed by these memory devices in a computer. 5  
b) Explain with a block diagram how a computer works. 5
- IV. 7. a) With supporting diagrams, illustrate how will you calibrate an audiometer in 4 C mode. 6  
b) Explain the working principle of an immittance meter. 4
- OR,
8. a) With a neat sketch, explain the working of an artificial Larynx. 4  
b) With a functional block diagram, explain the working of a DPOAE analyzer. How does it differ from a TEOAE analyzer ? 6
- V. 9. a) Explain how a digital signal processing system is implemented in a digital hearing aid. 4  
b) "A to D and D to A converters are not required for a Digitally Programmable Hearing Aid". J u s t i f y . . 4  
c) Write a short note on FIR filters. 2
10. a) Explain how an analog signal is converted to a digital signal. 5  
b) List out the major applications of digital signal processing in the field of speech and hearing. 5
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## OC 060 (Sp & Hg)

### III Semester B.Sc. Examination, Nov./Dec. 2005 (Integrated Semester Scheme) Speech and Hearing Statistics and Research Methods

Time : 2 Hours

Max. Marks : 50

*Instruction: Answer all the questions.*

- I. 1. Describe the applications of descriptive and inferential statistics in speech and hearing. **10**

OR

2. What is a variable ? What is a scale of measurement ? What are the qualities to be satisfied by a good scale of measurement. Explain ratio and Interval scale with suitable examples. **(1+1+2+6=10)**

- II. 3. a) What is probability sampling ? Enumerate advantages of probability sampling over non-probability sampling. **4**

- b) Describe simple random sampling and stratified random sampling methods with their merits and demerits. **6**

OR

4. Describe, with neat diagrams, various methods of graphical presentation of data. **10**

- III. 5. Calculate Arithmetic mean and standard deviation for the following data :

Protein intake (in gin/day)	Number of Individual
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15 - 25	30
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25-35	40
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35-45	100
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45-55	110
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55-65	80
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65-75	30
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75-85	10
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Total	400	<b>10</b>
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OR

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6. For a group of 500 healthy children the mean haemoglobin level was 12.5 g/dl with a standard deviation of 1.5 g/dl. If the haemoglobin level follows normal distribution, approximately
- a) How many children will be having Hb values less than 11 g/dl.
  - b) How many children will have Hb values between 9.5 g/dl and 14 g/dl.
  - c) How many children will have Hb values beyond 15.5g/dl (3+4+3=10)

IV. 7. a) Define correlation coefficient. Enumerate properties of correlation coefficient. 3

b) Compute spearman Rank correlation coefficient for the following data :

X :	1	2	3	4	5	6	7	8	9	10	
Y:	3	1	4	2	5	7	6	8	10	9	7

OR

8. a) Describe various measures of dispersion. 5

b) Describe the procedure of testing significance of differences between two means. 5

V. 9. a) Describe sampling and non-sampling errors. 4

b) Discuss structure of a research report. 6

OR

10. Write an essay on any two group designs. 10