

THE HEARING AID COUNCIL

EXAMINATION PAPER 1 – APRIL 2002(1)

SECTION A

Answer **THREE** of the following four questions:

- 1A1** (a) Draw a labelled diagram of the right pinna. (5)
- (b) Briefly describe the functions of the pinna in the localisation of sound. (5)
- (c) List four conditions of the outer ear (pinna and ear canal) that are likely to affect hearing aid use and selection. (2)
- (d) How do each of these conditions affect hearing aid use and selection and how can these effects be over come? (8)
- 1A2** (a) List 4 causes of hearing loss that can be prevented. (2)
- (b) How might each of them be prevented? (6)
- (c) How does each of them lead to hearing loss? (6)
- (d) What type of hearing loss results from each of these causes? Use diagrams where necessary. (6)
- 1A3** Write short notes on:
- (a) Diplacausis, (4)
- (b) Hyperacausis, (4)
- (c) Loudness recruitment, (4)
- (d) The stria vascularis, (4)
- (e) Perilymph. (4)
- 1A4** (a) Why does the middle ear need an impedance matching mechanism? (2)
- (b) Describe the impedance matching mechanism. (8)
- (c) Name the middle ear muscles and describe their function. (4)
- (d) What information can be gained from middle ear reflex measurements? (6)

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SECTION B

Answer **THREE** of the following four questions:

- 1B1** Describe how you would check your audiometer each day before using it.
How often would you send your instrument for more comprehensive testing and what would this entail?
Why is it important that both these procedures are carried out? **(20)**
- 1B2** (a) How do the acoustic features of speech differ from those of a sustained 1kHz pure tone? **(10)**
- (b) Your client has a severe sensori-neural hearing loss above 1kHz, but normal hearing in the low frequencies. How is their speech perception likely to be affected? **(10)**
- 1B3** Describe the procedure you would follow to carry out unmasked pure tone audiometry on a client who has never previously had a hearing test. **(8)**
- How might your technique need to be varied if:
- (a) testing a very elderly person **(4)**
- (b) testing someone at home **(4)**
- (c) testing someone who could not speak your language? **(4)**
- 1B4** Explain in full the terms dB SPL; dB HL; dB SL; and dB A. Make clear in your explanation the difference between the terms and how they are derived. In what circumstances would you encounter each of these measurements? **(20)**

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EXAMINATION PAPER 2 – APRIL 2002(1)

SECTION A

Answer THREE of the following four questions:

- 2A1** Your client has bilateral conductive hearing losses. They would like to try a digital hearing aid. Discuss the factors you will need to consider. (20)
- 2A2** Your client has near normal hearing up to 1000Hz after which there is a precipitous loss with no useful hearing above 1500Hz. They have heard about frequency transposition hearing aids and would like to know if these might provide a solution to their problems. How you would explain the possible advantages and drawbacks to such a system in their case. (20)
- 2A3** In what situations are directional microphones or directional arrays better than omnidirectional systems, and in what situations are omnidirectional systems likely to be more acceptable than directional ones? (20)
- 2A4** Write short notes on;
- (a) Analogue to digital transformation, (5)
 - (b) 2cc coupler, (5)
 - (c) input compression, (5)
 - (d) output compression (5)

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EXAMINATION PAPER 2 – APRIL 2002(1)

SECTION B

All candidates must answer question 2B1; and 2 out of the other 3 questions

- 2B1** Write short notes on the following. In each case why do you think restrictions should apply?
- (a) The restrictions on surveys regarding hearing loss (clause 17) (4)
 - (b) The requirements for dispensers to service hearing aids (clause 18) (4)
 - (c) Guarantee period for new hearing aids (clause 19) (4)
 - (d) How dispensers may refer to their premises (clause 16) (4)
 - (e) The requirements for a calibrated audiometer (clause 8) (4)
- 2B2** You feel that binaural aiding is appropriate for your client. Why might they initially reject the idea of wearing binaural hearing aids? How would you seek to change that attitude – and why? (20)
- 2B3** How would you proceed when a client who is wearing a recently fitted, all-in the-ear hearing aid system for the first time, complains about the following difficulties:
- (a) that their own voice sounds too loud, (5)
 - (b) when using the telephone, the hearing aid feeds back, (5)
 - (c) other peoples' voices are louder but not clear enough., (5)
 - (d) the aid is difficult to fit and the area around the helix is very sore. (5)
- 2B4** In order to achieve the most complete and satisfactory rehabilitation of an adult who has not worn hearing aids before, explain the importance of the following stages:
- (a) The case history, (4)
 - (b) The explanation to the client and to any "significant other" about the audiogram. (4)
 - (c) Selection of type of hearing aid system. (4)
 - (d) The fitting of the hearing aid system. (4)
 - (e) The first follow-up appointment after hearing aid fitting. (4)

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EXAMINATION PAPER 3 – APRIL 2002(1)

SECTION A

Answer **FOUR** of the following five questions:

- 3A1** Your client has bilateral conductive hearing losses. They would like to try a digital hearing aid. Discuss the factors you will need to consider. (20)
- 3A2** Your client has near normal hearing up to 1000Hz after which there is a precipitous loss with no useful hearing above 1500Hz. They have heard about frequency transposition hearing aids and would like to know if these might provide a solution to their problems. How you would explain the possible advantages and drawbacks to such a system in their case. (20)
- 3A3** In what situations are directional microphones or directional arrays better than omnidirectional systems, and in what situations are omnidirectional systems likely to be more acceptable than directional ones? (20)
- 3A4** Write short notes on;
- (a) Analogue to digital transformation, (5)
 - (b) 2cc coupler, (5)
 - (c) input compression, (5)
 - (d) output compression (5)
- 3A5** Describe the non-electrical methods in which the acoustic performance of an in-the-ear or in-the-canal aid can be altered to suit the client's prescription. What considerations, other than the audiogram, influence your choice of shell design or type when fitting these aids? (20)

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EXAMINATION PAPER 3 – APRIL 2002(1)

SECTION B

Answer **BOTH** questions:

3B1 Write short notes on the following. In each case why do you think restrictions should apply?

- (f) The restrictions on surveys regarding hearing loss (clause 17) (4)
- (g) The requirements for dispensers to service hearing aids (clause 18) (4)
- (h) Guarantee period for new hearing aids (clause 19) (4)
- (i) How dispensers may refer to their premises (clause 16) (4)
- (j) The requirements for a calibrated audiometer (clause 8) (4)

- 3B2**
- (a) Who legally can be the ‘notified supervisor’ of a trainee dispenser? (4)
 - (b) Describe 4 responsibilities of a ‘notified supervisor’ in relation to a ‘notified trainee’ (8)
 - (c) During the post-examination period what does the Hearing Aid Council Standard of Competence require of a supervisor and a trainee in respect of the logbooks? (8)